

6001

Leu	Val	Tyr	Thr	Leu	Ala	Pro	Arg	Ala	Asp	Lys	Asp	Thr	Glu	Lys	
65				70					75					80	
Leu	Val	Gly	Lys	Leu	Thr	Arg	Lys	Phe	Lys	Val	Gly	Ala	Phe	Leu	Tyr
			85					90						95	
Ser	Glu	Gly	Thr	Val	Glu	Asp	Gln	Ala	Asn	Leu	Thr	Asn	Tyr	Ala	Gln
			100					105					110		
Arg	Gln	Ser	Lys	Ile	Pro	Leu	Met	Ile	Thr	Phe	Asp	Gly	Glu	Trp	Gly
			115				120					125			
Leu	Ala	Met	Arg	Leu	Glu	Asn	Thr	Pro	Val	Phe	Pro	Arg	Asn	Ala	Ala
			130				135					140			
Leu	Gly	Cys	Ile	Ser	Asp	Asn	Thr	Leu	Ile	Glu	Ala	Tyr	Gly	Gln	Glu
145						150				155					160
Val	Ala	Arg	Glu	Leu	Arg	Glu	Ile	Gly	Ala	His	Val	Asn	Phe	Ala	Pro
			165					170						175	
Asp	Ala	Asp	Val	Asn	Thr	Asn	Pro	Glu	Asn	Pro	Val	Ile	His	Val	Arg
			180					185					190		
Ser	Phe	Gly	Glu	Asn	Pro	Lys	Thr	Val	Ala	Glu	Lys	Val	Ile	Ala	Tyr
			195				200					205			
Gly	Arg	Gly	Leu	Glu	Thr	Gly	Gly	Ile	Leu	Ser	Val	Ser	Lys	His	Phe
			210				215					220			
Pro	Gly	His	Gly	Asp	Thr	Asp	Val	Asp	Ser	His	Gln	Ala	Leu	Pro	Ala
225						230					235				240
Val	Tyr	Tyr	Asn	Arg	Ala	Arg	Leu	Asp	Ser	Val	Glu	Leu	Tyr	Pro	Phe
			245					250						255	
Lys	Glu	Ala	Ile	Gln	Ala	Gly	Leu	Gly	Gly	Val	Met	Val	Gly	His	Leu
			260					265					270		
Gln	Val	Pro	Ala	Leu	Glu	Pro	Asp	Arg	Ile	Thr	Pro	Ser	Ser	Leu	Ser
			275				280						285		
His	Ser	Ile	Val	Thr	Asp	Leu	Leu	Arg	Gly	Glu	Leu	Gly	Phe	Asn	Gly
			290				295				300				
Leu	Val	Phe	Thr	Asp	Ala	Leu	Ala	Met	Lys	Gly	Val	Ala	Ala	Glu	Ser
305						310				315					320
Asp	Val	Thr	Val	Lys	Ala	Leu	Lys	Ala	Gly	Asn	Asp	Met	Val	Leu	Val
			325						330					335	
Gln	Gln	Asn	Val	Glu	Lys	Ala	Gln	Glu	Ser	Val	Val	Gln	Ala	Ile	Lys
			340					345					350		
Asp	Gly	Arg	Leu	Thr	Met	Glu	Glu	Ile	Asp	Ala	Lys	Cys	Arg	Arg	Ile
			355				360					365			
Leu	Ala	Tyr	Lys	Tyr	Arg	Leu	Gly	Leu	Ser	Arg	Arg	Pro	Met	Ile	Pro
			370				375					380			
Val	Asp	Gly	Leu	Ser	Asp	Arg	Ile	His	Thr	Pro	Glu	Ala	Gln	Ala	Leu
385						390					395				400
Val	Thr	Lys	Leu	Arg	Thr	Ser	Ala	Val	Thr	Val	Leu	Gly	Asn	Tyr	Phe
			405						410					415	
Gln	Ile	Leu	Pro	Leu	Thr	Ala	Thr	Lys	Gly	Glu	Ile	Ala	Val	Leu	Thr
			420					425					430		
Val	Gly	Asp	Glu	Gly	Ser	Asp	Ala	Ser	Phe	Ile	Glu	Gly	Leu	Arg	Ser
			435				440					445			
Glu	Leu	Pro	Leu	Lys	Thr	Phe	Arg	Met	Asp	Lys	Asn	Thr	Gly	Glu	Glu
			450				455				460				
Glu	Arg	Arg	Lys	Ile	Val	Lys	Glu	Leu	Gly	Asn	Tyr	Arg	Arg	Val	Val
465						470				475					480
Val	Cys	Ile	Thr	Val	Gln	Asp	Lys	Glu	Ala	Gly	Glu	Tyr	Arg	Ser	Phe
			485					490						495	
Phe	Ala	Gly	Phe	Arg	Pro	Gln	Ala	Pro	Val	Val	Tyr	Ala	Phe	Phe	Thr
			500					505					510		
Ser	Tyr	Arg	Ala	Leu	Ala	Ser	Leu	Glu	Glu	Ala	Ala	Ala	Arg	Ser	Ala
			515				520					525			
Ala	Val	Val	Leu	Ala	His	Ser	Gly	Glu	Glu	Asp	Leu	Gln	Arg	Tyr	Val

530	535	540
Ala Asp Val Val Leu Gly Lys Ala Ser Ala Thr Gly Arg Leu Ser Met		
545	550	555
Arg Ile Gly Asn Thr Phe Ala Ala Gly Ser Gly Val Asp Val Ile Ser		
	565	570
Gly Ser Pro Ala Gly Ile Ala Pro Glu Asp Tyr Gly Leu Lys Ser Tyr		
	580	585
Arg Leu His Arg Ile Asp Ser Val Val Ala Ala Gly Leu Ala Ala Lys		
	595	600
Ala Phe Pro Gly Cys Gln Val Leu Val Leu Arg His Gly Gln Pro Val		
	610	615
Tyr Asp Lys Cys Phe Gly Thr His Ser Val Thr Asp Thr Thr Pro Val		
	625	630
Arg Ala Thr Asp Leu Phe Asp Leu Ala Ser Leu Thr Lys Thr Ser Ala		
	645	650
Thr Leu Leu Ala Val Met Lys Leu Tyr Asp Gln Gly Arg Ile Glu Leu		
	660	665
Thr Asp Ala Val Ser Lys Tyr Val Pro Ala Leu Arg Ala Thr Asn Lys		
	675	680
Lys Asn Ile Thr Ile Arg Glu Leu Leu Leu His Glu Ser Gly Leu Val		
	690	695
Pro Tyr Ile Arg Phe Tyr Arg Asp Ala Ile Asp Glu Tyr Ser Val Thr		
	705	710
Gly Pro Phe Thr Gln Gly Phe Val Asp Glu Trp His His Thr Arg Met		
	725	730
Gly Glu Tyr Thr Tyr Ala Cys Ser Asp Phe Lys Phe Lys Lys Gly Leu		
	740	745
Val Ser Ala Thr Lys Thr Ser Gly His Thr Leu Gln Ile Ala Asp Gly		
	755	760
Leu Trp Leu Asp Lys Lys Phe Lys Ala Ala Met Met Lys Ser Ile Ala		
	770	775
Gln Ser Glu Leu Asp Arg Lys Arg Phe Val Tyr Ser Asp Ile Gly Phe		
	785	790
Ile Leu Leu Gln Gln Val Val Glu Ala Val Thr Gly Lys Thr Leu Asp		
	805	810
Ala Tyr Leu Val Ser Glu Phe Tyr Arg Pro Met Gly Leu Glu His Thr		
	820	825
Leu Phe His Pro Leu Asn Arg Tyr Lys Lys Ala Asp Ile Met Pro Thr		
	835	840
Ala Ala Asn Asp Tyr Leu Arg Gln Asp Leu Cys Gly Tyr Val His		
	850	855
Asp Glu Ala Ala Ala Phe Met Gly Gly Val Ser Gly Asn Ala Gly Leu		
	865	870
Phe Ser Thr Ala Gln Glu Leu Gly Lys Ile Tyr Gln Met Ile Leu Asn		
	885	890
Glu Gly Glu Leu Asp Gly Lys Arg Tyr Leu Arg Pro Glu Thr Cys Arg		
	900	905
Ile Phe Thr Thr Glu Lys Ser Ala Val Ser His Arg Gly Leu Gly Tyr		
	915	920
Asp Lys Pro Asn Leu Lys Asp Pro Lys Ala Asn Ala Cys Ala Ser Ser		
	930	935
Ala Pro Ala Ser Val Tyr Gly His Thr Gly Phe Thr Gly Thr Cys Ala		
	945	950
Trp Val Asp Pro Glu Asn Asp Leu Val Tyr Ile Phe Leu Ser Asn Arg		
	965	970
Leu Cys Pro Asp Ala Trp Asn Gly Lys Leu Asn Ser Met Lys Ile Arg		
	980	985
Gln Ala Val Gln Glu Val Ile Tyr Gln Ser Leu Tyr Thr Pro Glu		
	995	1000
		1005

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 <212> PRT
 <213> B.fragilis

<400> 10159

Thr	Met	Asp	Leu	Ser	Ala	Ala	Lys	Leu	Tyr	Asn	Ser	Gln	Arg	Met	Asn
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Arg	Ala	Ile	Ser	Arg	Lys	Lys	Phe	Tyr	Phe	Trp	Lys	Ile	Ile	Leu	Glu
		20						25					30		
Gly	Pro	Gly	Lys	Lys	Trp	Glu	Pro	Asn	Arg	Arg	Thr	Leu	Lys	Asp	Leu
		35					40					45			
Gly	Met	Val	Glu	Glu	Pro	Tyr	Gly	Lys	Lys	Thr	Leu	Phe	Ser	Leu	Phe
	50					55				60					
Asp	Met	Thr	Glu	Ser	Asp	Gly	Gly	Lys	Arg	Gly	Leu	Glu	Lys	Trp	Leu
65					70					75					80
Val	His	Pro	Leu	Ser	Asp	Trp	Lys	Ala	Leu	His	Glu	Arg	Gln	Glu	Ala
				85					90					95	
Ile	Arg	Tyr	Pro	Asp	Phe	Pro	Glu	Ile	Arg	Ile	Cys	Arg	Glu	Glu	Leu
			100					105					110		
Asp	Phe	Ile	Glu	Phe	Tyr	Leu	Ser	Gln	Gly	Asp	Arg	Pro	Thr	Arg	Val
		115					120					125			
Ser	Tyr	Leu	Glu	Ser	Ala	Phe	Ser	Tyr	Ile	Phe	Arg	His	Phe	Arg	Ala
	130					135					140				
Thr	Pro	Glu	Arg	Tyr	Val	Ile	Arg	Arg	Gly	Thr	Lys	Leu	Leu	Glu	Asn
145					150						155				160
Val	Leu	Leu	Glu	Leu	Lys	Thr	Phe	Ala	Asp	His	Val	Thr	Ala	Leu	Ser
				165					170					175	
Pro	Arg	Leu	Ile	Arg	Asn	Ile	Ala	Ala	Thr	Ile	Ser	Glu	Ile	Tyr	Gln
		180						185					190		
Ala	Thr	Glu	Leu	Gly	Lys	Met	Val	Asp	Ser	Cys	Gly	Gln	Glu	Asp	Ser
		195					200					205			
Phe	Tyr	Arg	Thr	Asp	Arg	Leu	Asp	Tyr	Ile	Phe	Arg	Tyr	Arg	Arg	Asn
	210					215					220				
His	Thr	Ile	Ala	Ala	Leu	Leu	Ser	Ile	Val	Tyr	Gln	Leu	Asp	Ala	Ile
225					230					235					240
Arg	Thr	Val	His	Arg	Thr	Ala	Val	Thr	Lys	Gly	Trp	Cys	Phe	Pro	Ser
			245						250					255	
Phe	Thr	Asn	Asp	Ser	Lys	Phe	Met	Leu	Cys	Asn	Phe	Tyr	His	Pro	Gln
		260						265					270		
Val	Lys	Asp	Ala	Val	Ala	Asn	Asp	Trp	Glu	Met	Glu	Asn	Gly	Asn	Ile
		275					280					285			
Cys	Ile	Phe	Thr	Gly	Ser	Asn	Met	Ala	Gly	Lys	Ser	Thr	Thr	Leu	Lys
	290					295					300				
Ala	Ile	Ala	Ser	Ala	Val	Trp	Leu	Ala	His	Ala	Gly	Phe	Pro	Val	Pro
305					310					315					320
Ala	Ser	Ser	Met	Val	Cys	Pro	Met	Phe	Asp	Gly	Ile	Phe	Thr	Ser	Ile
			325						330					335	
Asn	Leu	Pro	Asp	Ser	Leu	Arg	Asp	Gly	Arg	Ser	Tyr	Phe	Tyr	Ala	Glu
		340						345					350		
Val	Leu	Arg	Val	Lys	Glu	Val	Leu	Glu	Gln	Ile	Asn	Lys	Gly	His	His
		355					360					365			
Cys	Phe	Val	Leu	Phe	Asp	Glu	Leu	Phe	Arg	Gly	Thr	Asn	Ala	Arg	Asp
	370					375					380				
Ala	Phe	Glu	Ala	Ser	Val	Ala	Val	Ala	Glu	Val	Leu	Lys	Ala	Lys	Ala
385					390					395					400
Tyr	Ser	Arg	Phe	Leu	Ile	Ser	Thr	His	Ile	Ile	Glu	Leu	Ala	Arg	Lys
				405					410					415	

Leu Asp Gly Asp Asp Ala Cys Cys Phe Tyr Tyr Leu Glu Ser Ala Ile
 420 425 430
 Val Asp Asp Glu Leu Ile Cys Asn His Lys Val Lys Pro Gly Ile Ser
 435 440 445
 Glu Ser Arg Val Gly Tyr Trp Ile Val Lys Lys Glu Leu Ala Gly Phe
 450 455 460
 Glu Lys
 465

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 <212> PRT
 <213> B.fragilis

<400> 10160
 Ile Met Asn Gln Glu Ile Leu Asn Arg Tyr Leu Thr Gly Asp Ala Ser
 1 5 10 15
 Ala Glu Glu Lys Gln Met Val Val Arg Trp Leu Asp Ala Asp Pro Gln
 20 25 30
 His Met Arg Glu Tyr Leu Ala Leu Arg Lys Leu His Asp Ile Thr Leu
 35 40 45
 Trp Gln Glu Lys Pro Ala Ala Thr Val Asp Lys Lys Lys Arg Leu Thr
 50 55 60
 Leu Pro Tyr Ile Arg Glu Phe Ile Lys Ile Ala Ala Ile Phe Leu Ile
 65 70 75 80
 Ala Val Thr Ser Val Tyr Phe Leu Ala Pro Glu Arg Gly Lys Asp Thr
 85 90 95
 Pro Asp Leu Lys Ala Ile His Val Pro Ser Gly Gln Arg Ala Glu Leu
 100 105 110
 Thr Leu Gly Asp Gly Thr Arg Val Cys Leu Asn Ser Asn Thr Thr Leu
 115 120 125
 Thr Phe Pro Asp His Phe Asp Arg Lys Glu Arg Arg Val Thr Leu Asp
 130 135 140
 Gly Glu Gly Tyr Phe Gln Val Ala Lys Asn Asp Lys Lys Pro Phe Ile
 145 150 155 160
 Val Gln Ala Lys Glu Tyr Glu Val Arg Val Leu Gly Thr Glu Phe Asn
 165 170 175
 Val Met Met Tyr Lys Asp Gln Asp Phe Phe Glu Thr Val Leu Leu Lys
 180 185 190
 Gly Ser Val Glu Val Asn Glu Thr Thr Thr Gly Arg Lys Val Lys Leu
 195 200 205
 Gln Pro Asn Glu Arg Leu Phe Gly Lys Ala Gly Gln Leu Arg Lys Glu
 210 215 220
 Ser Ile Ser Glu Trp Asn Arg Ala Leu Trp Met Gln Gly Ile Leu Tyr
 225 230 235 240
 Phe Asp Asn Thr Arg Met Asp Glu Ile Ile Arg Gln Leu Gly Leu Tyr
 245 250 255
 Tyr Asp Val Lys Phe Ile Leu Glu Lys Glu Ser Leu Ala Asn Val Arg
 260 265 270
 Phe Thr Gly Lys Phe Arg Ile Arg Asp Gly Val Glu His Val Leu Lys
 275 280 285
 Val Leu Gln Leu Lys Cys Lys Phe Thr Tyr Gln Arg Asp Glu Asp Ser
 290 295 300
 Asn Thr Ile Thr Ile Asn
 305 310

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 <212> PRT

<213> B.fragilis

<400> 10161

Val	Leu	Ile	Asn	Thr	Val	Tyr	Lys	Cys	Met	Lys	Asn	Thr	Leu	Ile	Lys
1				5					10					15	
Thr	Ser	Lys	Ile	Val	Asn	Lys	Ser	Ile	Ser	His	Thr	Met	Lys	Met	Ile
			20					25					30		
Val	Leu	Phe	Leu	Phe	Val	Phe	Ile	Ser	Gly	Val	Phe	Ala	Gly	Asn	Ala
		35					40					45			
Asn	Ser	Gln	Glu	Thr	Lys	Val	Ser	Ile	Ser	Lys	Asn	Asn	Lys	Pro	Ile
	50					55					60				
Arg	Glu	Ile	Leu	Gly	Glu	Ile	Glu	Arg	Gln	Thr	Asp	Tyr	Leu	Phe	Val
65				70					75					80	
Tyr	Ser	Glu	Lys	Glu	Val	Asp	Val	Asn	Gln	Arg	Lys	Thr	Val	Asn	Val
			85					90						95	
Ser	Gln	Gln	Arg	Val	Ala	Asp	Val	Leu	Ser	Ser	Leu	Phe	Arg	Ser	Thr
			100					105					110		
Asn	Val	Gly	Tyr	Ala	Met	Glu	Gly	His	Asn	Ile	Met	Leu	Met	Ala	Lys
		115					120					125			
Thr	Thr	Gln	Thr	Asp	Ala	Ala	Gln	Gln	Lys	Arg	His	Ile	Thr	Gly	Val
	130					135					140				
Val	Lys	Asp	Ile	Lys	Gly	Glu	Thr	Ile	Ile	Gly	Ala	Asn	Ile	Met	Ile
145					150					155				160	
Lys	Gly	Thr	Gly	Thr	Gly	Val	Ser	Thr	Asn	Ile	Asp	Gly	Glu	Phe	Ser
				165				170						175	
Ile	Glu	Ala	Ala	Ala	Gly	Asp	Glu	Leu	Ile	Val	Ser	Phe	Ile	Gly	Tyr
			180					185				190			
Leu	Thr	Gln	Thr	Ile	Lys	Ile	Asp	Ser	Gln	Lys	Thr	Leu	Asn	Ile	Lys
		195					200					205			
Leu	Leu	Glu	Asp	Thr	Lys	Thr	Leu	Glu	Glu	Val	Val	Val	Val	Gly	Tyr
	210					215					220				
Thr	Val	Gln	Thr	Lys	Ser	Ala	Val	Thr	Gly	Ser	Val	Ala	Val	Val	Lys
225					230					235					240
Ala	Asp	Lys	Leu	Lys	Asp	Val	Asn	Thr	Leu	Glu	Val	Gly	Ser	Met	Leu
				245				250						255	
Gln	Gly	Lys	Val	Ser	Gly	Val	Tyr	Val	Ser	Gly	Ser	Ser	Gly	Glu	Pro
			260					265					270		
Gly	His	Ala	Ser	Lys	Ile	Arg	Ile	Arg	Gly	Lys	Gly	Thr	Leu	Asn	Ser
		275					280					285			
Ser	Val	Ser	Pro	Leu	Trp	Val	Val	Asp	Gly	Val	Ile	Val	Gly	Glu	Asp
	290					295					300				
Pro	Gly	Leu	Asn	Pro	Asn	Glu	Ile	Asp	Asn	Ile	Ser	Val	Leu	Lys	Asp
305					310					315					320
Gly	Ser	Ala	Thr	Ala	Leu	Tyr	Gly	Ser	Arg	Ala	Ala	Asn	Gly	Val	Ile
				325					330					335	
Val	Val	Thr	Thr	Lys	Arg	Gly	Glu	Tyr	Asp	Ala	Asn	Lys	Tyr	Ser	Val
			340					345					350		
Ser	Ile	Asn	Ala	Gly	Val	Ser	Leu								

Ser	Asn	Asn	Asp	Val	Lys	Phe	Thr	Asp	Arg	Phe	Thr	Met	Ser	Thr	Lys
450						455					460				
Ile	Ser	Gly	Ser	Leu	Ser	Arg	Thr	Asp	Ser	Gln	Gln	Arg	Ser	Val	Tyr
465					470					475					480
Asn	Thr	Tyr	Leu	Tyr	Leu	Pro	Trp	Asp	Phe	Pro	Tyr	Asn	Glu	Asp	Gly
				485					490					495	
Ser	Ile	Arg	Ser	Gly	Gln	Glu	Gln	Asp	Trp	Arg	Gly	Arg	Asp	Gly	Ile
			500					505					510		
Asn	Asp	Met	Tyr	Asp	Leu	Gln	Trp	Asn	Trp	Ser	Arg	Ser	Lys	Lys	Leu
		515					520						525		
Thr	Val	Asp	Gly	Thr	Ile	Asn	Phe	Asn	Tyr	Gln	Ile	Thr	Asp	Trp	Leu
	530					535					540				
Arg	Phe	Glu	Ser	Asn	Asn	Tyr	Ile	Arg	Tyr	Ile	Ser	Asn	Arg	Ser	Glu
545					550					555					560
Ser	Tyr	Thr	Asp	Lys	Arg	Ser	Arg	Ser	Gly	Gln	Ser	Asp	Lys	Gly	Ser
				565					570					575	
Leu	Ser	Asn	Ser	Asn	Ser	Leu	Leu	Thr	Lys	Gln	Phe	Thr	Asn	Gln	Met
				580					585					590	
Ile	Arg	Phe	Glu	Lys	Ser	Phe	Gly	Lys	His	Lys	Val	Asn	Ala	Leu	Gly
		595					600					605			
Ala	Tyr	Glu	Tyr	Thr	Arg	His	Phe	Tyr	Glu	Ser	Thr	Ser	Ala	Glu	Gly
	610					615					620				
Arg	Gly	Ile	Gln	Pro	Gly	Arg	Glu	Ile	Leu	Asp	Val	Thr	Thr	Gly	Ile
625					630					635					640
Lys	Ser	Ile	Gly	Gly	Tyr	Lys	Asp	Ala	Ile	Ala	Thr	Gln	Ser	Ala	Leu
				645					650					655	
Phe	Asn	Ala	Asn	Tyr	Asp	Tyr	Asp	Asn	Arg	Tyr	Met	Gly	Gln	Val	Ser
			660					665					670		
Tyr	Arg	Met	Asp	Glu	Ser	Ser	Cys	Phe	Gly	Lys	Asn	Asn	Arg	Met	Gly
		675					680					685			
His	Phe	Phe	Thr	Val	Ser	Gly	Gly	Trp	Asn	Ile	Gln	Asn	Glu	Thr	Phe
	690					695					700				
Phe	Glu	Ser	Leu	Arg	Glu	Ser	Val	Asn	Gln	Leu	Lys	Val	Arg	Val	Ser
705					710					715					720
Tyr	Gly	Ser	Leu	Gly	Asn	Thr	Pro	Gly	Ala	Tyr	Tyr	Gly	His	Tyr	Pro
				725					730					735	
Leu	Tyr	Ser	Ser	Met	Met	Tyr	Asn	Asp	Glu	Val	Ala	Tyr	Phe	Pro	Ser
			740					745					750		
Gln	Met	Gly	Asn	Ala	Asp	Leu	Ser	Trp	Glu	Lys	Cys	Tyr	Thr	Thr	Asn
		755					760					765			
Ile	Gly	Ile	Asp	Ala	Arg	Phe	Phe	Asp	Arg	Phe	Gly	Val	Thr	Ile	Asp
	770					775					780				
Leu	Tyr	Asn	Lys	Asn	Thr	Ser	Asp	Leu	Leu	Tyr	Tyr	Ala	Pro	Leu	Pro
785					790					795					800
Asn	Ile	Ser	Gly	Tyr	Thr	Gly	Gln	Tyr	Lys	Asn	Val	Gly	Ala	Ile	Asn
				805					810					815	
Asn	Lys	Gly	Leu	Glu	Ile	Ser	Leu	Asn	Ala	Asp	Val	Ile	Arg	Thr	Ser
			820					825					830		
Lys	Phe	Gln	Trp	Thr	Ser	Asp	Phe	Asn	Ile	Gly	Phe	Asn	Arg	Asn	Arg
		835					840					845			
Val	Thr	Glu	Leu	Tyr	Gly	Arg	Lys	Pro	Glu	Leu	Lys	Gly	Leu	Lys	Arg
	850					855					860				
Leu	Glu	Glu	Arg	Arg	Asp	Met	Asp	Glu	Trp	Tyr	Leu	Lys	Glu	Trp	Ala
865					870				875						880
Gly	Val	Asp	Pro	Ala	Asn	Arg	Ser	Pro	Leu	Trp	Tyr	Thr	Pro	Arg	Trp
				885					890					895	
Glu	Trp	Pro	Lys	Ala	Gln	Leu	Pro	Asp	Ser	Tyr	Asn	Lys	Ala	Asp	Arg
			900					905					910		
Val	Tyr	Cys	Gly	Ser	Ala	Ala	Arg	Lys	Phe	Thr	Gly	Gly	Trp	Met	Asn

6006

915	920	925
Ser Phe Ser Tyr Lys Gly Phe Thr Leu Thr Ala Asn Phe Asp Phe Val		
930	935	940
Tyr Gly Asn Leu Leu Tyr Asn Gln Ser Arg Glu Leu Leu Asp Ser Asp		
945	950	955
Gly Ala Tyr Ala Asp Tyr Asn Ser Met Lys Leu Lys Ser Gly Trp Lys		
965	970	975
Arg Trp Glu Lys Glu Gly Asp Ile Ala Thr His Pro Lys Ala Ile Asn		
980	985	990
Gly Gly Asn Lys Asn Ser Asn Lys Ser Ser Ser Arg Tyr Leu Glu Lys		
995	1000	1005
Gly Asn Tyr Phe Ser Leu Arg Asn Leu Ser Leu Gly Tyr Ser Ile Pro		
1010	1015	1020
Glu Lys Leu Cys Gly Lys Leu Gly Leu Gln Arg Val Asn Val Ser Cys		
1025	1030	1035
Ser Ala Asp Asn Leu Phe Thr Leu Thr Pro Phe Ser Gly Val Ser Pro		
1045	1050	1055
Gln Leu Ser Asp Ser Ser Thr Asp Gly Tyr Ala Gly Thr Ile Tyr Pro		
1060	1065	1070
Leu Ser Arg Arg Ile Val Leu Gly Leu Asn Val Ser Phe		
1075	1080	1085

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<400> 10162

Phe Val Cys Asn Lys His Leu Ile Leu Thr Asn Pro Leu Asn Lys Ser		
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Ile Met Asn Ser Ser Met Glu Lys Pro Tyr Val Val Gly Ile Asp Ile		
20	25	30
Gly Gly Thr Asn Thr Val Phe Gly Ile Val Asp Ala Arg Gly Thr Ile		
35	40	45
Ile Ala Ser Gly Ala Val Lys Thr Gln Val Tyr Pro Thr Val Glu Glu		
50	55	60
Tyr Ala Asp Glu Val Cys Lys Asn Leu Leu Pro Leu Ile Ile Ala Asn		
65	70	75
Gly Gly Val Asp Lys Ile Lys Gly Ile Gly Ile Gly Ala Pro Asn Gly		
85	90	95
Asn Tyr Tyr Thr Gly Thr Ile Glu Phe Ala Pro Asn Leu Pro Trp Lys		
100	105	110
Gly Val Leu Pro Leu Ala Ser Met Phe Glu Glu Arg Leu Gly Ile Pro		
115	120	125
Thr Ala Leu Thr Asn Asp Ala Asn Ala Ala Val Gly Glu Met Thr		
130	135	140
Tyr Gly Ala Ala Arg Gly Met Lys Asp Phe Ile Met Ile Thr Leu Gly		
145	150	155
Thr Gly Val Gly Ser Gly Ile Val Ile Asn Gly Gln Val Val Tyr Gly		
165	170	175
His Asp Gly Phe Ala Gly Glu Leu Gly His Val Ile Val Arg Arg Asp		
180	185	190
Gly Arg Ile Cys Gly Cys Gly Arg Lys Gly Cys Leu Glu Thr Tyr Cys		
195	200	205
Ser Ala Thr Gly Val Ala Arg Thr Ala Arg Glu Phe Leu Ala Ala Arg		
210	215	220
Thr Asp Ala Ser Leu Leu Arg Asn Ile Pro Ala Glu Ser Ile Val Ser		
225	230	235
Lys Asp Val Tyr Asp Ala Ala Val Gln Gly Asp Lys Leu Ala Gln Glu		

[illegible]

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<400>	10163														
Asn	Lys	Met	Lys	Lys	Tyr	Leu	Lys	Ile	Thr	Leu	Leu	Val	Val	Val	Ala
1				5					10					15	
Ala	Ile	Phe	Ile	Gly	Thr	Phe	Ile	Phe	Leu	Tyr	Gln	Lys	Ser	Lys	Pro
			20					25					30		
Lys	Thr	Thr	Val	Tyr	Glu	Thr	Val	Thr	Pro	Glu	Ile	Ala	Asp	Leu	Glu
		35					40					45			
Lys	Thr	Thr	Val	Ala	Thr	Gly	Lys	Val	Glu	Pro	Arg	Asp	Glu	Val	Leu
	50					55					60				
Ile	Lys	Pro	Gln	Ile	Ser	Gly	Ile	Ile	Ser	Glu	Val	Tyr	Lys	Glu	Ala
65					70					75					80
Gly	Gln	Thr	Ile	Lys	Gln	Gly	Glu	Val	Ile	Ala	Lys	Val	Lys	Val	Ile
				85					90					95	
Pro	Glu	Leu	Gly	Gln	Leu	Asn	Ser	Ala	Glu	Ser	Arg	Val	Arg	Val	Ala
			100					105					110		
Glu	Ile	Ser	Thr	Ala	Gln	Ala	Glu	Thr	Asp	His	Glu	Arg	Ile	Lys	Lys
		115					120					125			
Leu	Tyr	Asn	Asp	Lys	Leu	Ile	Ser	Arg	Glu	Asp	Tyr	Glu	Lys	Ser	Glu
	130					135					140				
Val	Glu	Ile	Lys	Lys	Ala	Arg	Glu	Glu	Leu	Gln	Thr	Ala	Lys	Asp	Ala
145					150					155					160
Leu	Glu	Ile	Ile	Lys	Glu	Gly	Ile	Thr	Lys	Asn	Ser	Ala	Ser	Phe	Ser
				165					170					175	
Ser	Thr	Leu	Ile	Arg	Ser	Thr	Ile	Asp	Gly	Leu	Ile	Leu	Asp	Val	Pro
			180					185					190		
Ile	Lys	Val	Gly	Asn	Ser	Val	Ile	Met	Ser	Asn	Thr	Phe	Asn	Asp	Gly
		195					200					205			
Thr	Thr	Ile	Ala	Thr	Val	Ala	Asn	Met	Asn	Asp	Leu	Ile	Phe	Lys	Gly
	210					215					220				
Lys	Ile	Asp	Glu	Thr	Glu	Val	Gly	Arg	Ile	His	Glu	Gly	Met	Pro	Val
225					230					235					240
Lys	Leu	Thr	Ile	Gly	Ala	Leu	Gln	Asn	Leu	Thr	Phe	Asp	Ala	Glu	Leu
				245					250					255	
Glu	Tyr	Ile	Ser	Pro	Lys	Gly	Val	Glu	Glu	Asn	Gly	Ala	Asn	Gln	Phe
			260					265					270		
Glu	Ile	Lys	Ala	Ala	Val	His	Ala	Pro	Asp	Ser	Val	Gln	Ile	Arg	Ser
		275					280					285			
Gly	Tyr	Ser	Ala	Asn	Ala	Glu	Ile	Val	Leu	Gln	Arg	Ala	Gln	Lys	Val
	290					295					300				
Leu	Ala	Val	Pro	Glu	Gly	Ile	Ile	Glu	Phe	Ser	Gly	Asp	Ser	Thr	Phe

305		310		315		320
Val Trp Val Met Thr Asp Ser Ile Pro Glu Gln Lys Phe Glu Arg Arg						
		325		330		335
Gln Ile Lys Thr Gly Met Ser Asp Gly Ile Lys Leu Glu Ile Lys Glu						
		340		345		350
Gly Leu Thr Gly Lys Glu Lys Val Arg Ala Ser Glu Lys Lys Asp Lys						
		355		360		365

<210> 10164

<211> 450

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (83)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10164

Gly Lys Tyr Glu Ser Pro Thr Met His Asn Met Arg Asn Lys Ile Leu						
1	5	10	15			
Ile Asn Leu Leu Ile Leu Thr Gly Leu Ser Ala Tyr Thr Ala Gln Ala						
	20	25	30			
Gln Glu Gly Trp Thr Leu Arg Arg Cys Ile Asp Tyr Ala Ile Glu His						
	35	40	45			
Asn Ile Asn Val Gln Gln Thr Ala Asn Ser Ala Glu Gln Ser Lys Val						
	50	55	60			
Glu Val Asn Thr Ala Lys Trp Ala Arg Leu Pro Asn Leu Ser Gly Ser						
65	70	75	80			
Ala Ser Xaa Asn Trp Ser Trp Gly Arg Thr Ala Ser Pro Val Asp Asn						
	85	90	95			
Thr Tyr Asn Asp Ile Asn Ser Gly Ser Ser Ser Phe Ser Leu Gly Thr						
	100	105	110			
Asn Ile Pro Leu Phe Thr Gly Leu Glu Leu Pro Asn Gln Tyr Ala Leu						
	115	120	125			
Thr Lys Leu Asn Leu Lys Ala Ala Ile Glu Asp Leu Asn Lys Ala Lys						
	130	135	140			
Glu Asp Leu Ala Ile Asn Val Thr Ser Ala Tyr Leu Gln Val Leu Phe						
145	150	155	160			
Asn Gln Glu Leu Ser Lys Val Ala Gln Ser Gln Val Gly Leu Ser Lys						
	165	170	175			
Glu Gln Leu Ser Arg Ile Thr Arg Leu His Glu Val Gly Lys Ala Ser						
	180	185	190			
Pro Ala Glu Val Ala Glu Ala Lys Ala Arg Val Ala Gln Asp Glu Met						
	195	200	205			
Ser Ala Val Gln Ala Asp Asn Asn Tyr Arg Leu Ala Leu Leu Asp Leu						
	210	215	220			
Ser Gln Leu Leu Glu Leu Pro Thr Pro Glu Asn Phe Ser Leu Ala Thr						
225	230	235	240			
Pro Asp Thr Glu Leu Glu Phe Ser Pro Leu Thr Ser Pro Asp Glu Ile						
	245	250	255			
Tyr Asn Gln Ala Met Leu Tyr Lys Pro Gly Ile Lys Ala Ala Glu Tyr						
	260	265	270			
Arg Leu Glu Gly Ser Glu Lys Asn Val Arg Ile Ala Lys Ser Ser Tyr						
	275	280	285			
Tyr Pro Gln Leu Ser Phe Ser Ala Gly Leu Gly Thr Asn Phe Tyr Thr						
	290	295	300			
Val Asn Gly Asn Ala Gly Ser Asn Phe Gly Asn Gln Met Lys Asn Asn						
305	310	315	320			

Leu Asn Lys Tyr Ala Gly Phe Ser Leu Asn Ile Pro Leu Phe Asn Arg
 325 330 335
 Leu Ala Thr Arg Asn Arg Val Arg Thr Ala Arg Leu Gln Gln Thr Asn
 340 345 350
 Leu Ala Leu Gln Leu Asp Asn Thr Lys Lys Val Leu Tyr Lys Glu Ile
 355 360 365
 Gln Gln Ala Trp Tyr Asn Ala Ile Ala Ala Glu Ser Lys Phe Lys Ser
 370 375 380
 Ser Glu Ser Ala Val Glu Ala Ser Gln Glu Ser Phe Arg Leu Met Ser
 385 390 395 400
 Glu Lys Phe Asp Asn Gly Lys Ala Thr Ser Val Glu Tyr Asn Glu Ser
 405 410 415
 Lys Leu Asn Leu Thr Lys Ala Leu Ser Asp Arg Ile Gln Ala Lys Tyr
 420 425 430
 Asp Tyr Leu Phe Arg Thr Lys Ile Leu Asp Phe Tyr Lys Gly Gln Pro
 435 440 445
 Ile Glu
 450

<210> 10165
 <211> 119
 <212> PRT
 <213> B.fragilis

<400> 10165
 Thr Thr Met Asp Leu Ile Lys Ile Ala Glu Glu Ala Phe Ala Thr Gly
 1 5 10 15
 Lys Gln His Pro Ser Phe Lys Ala Gly Asp Thr Val Thr Val Ala Tyr
 20 25 30
 Arg Ile Ile Glu Gly Asn Lys Glu Arg Val Gln Leu Tyr Arg Gly Val
 35 40 45
 Val Ile Lys Ile Ala Gly His Gly Glu Lys Lys Arg Phe Thr Val Arg
 50 55 60
 Lys Met Ser Gly Thr Val Gly Val Glu Arg Ile Phe Pro Ile Glu Ser
 65 70 75 80
 Pro Ala Ile Asp Ser Ile Glu Val Asn Lys Val Gly Lys Val Arg Arg
 85 90 95
 Ala Lys Leu Tyr Tyr Leu Arg Ala Leu Thr Gly Lys Lys Ala Arg Ile
 100 105 110
 Lys Glu Lys Arg Val Asn Gly
 115

<210> 10166
 <211> 117
 <212> PRT
 <213> B.fragilis

<220>
 <221> UNSURE
 <222> (110), (111), (112), (117)
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 10166
 Ile His Ser Leu His Ile Glu Met Gly Lys Tyr Arg Thr Lys Gly Ser
 1 5 10 15
 Ile Ala Leu Ile Ile Thr Gly Ser Val Leu Ile Leu Val Leu Ala Gly
 20 25 30
 Leu Tyr Leu Gly Arg Asn Gly Ile Leu Cys Arg Thr Ala Asp Lys Arg
 35 40 45

Ile Leu Tyr Ala Glu Gln Lys Tyr Gly Leu Ser Ile Cys Tyr Glu Asp
 50 55 60
 Leu Arg Met Lys Gly Leu Asn Glu Ile Glu Leu Lys Asn Leu Ser Ile
 65 70 75 80
 Val Pro Arg Asn Arg Asp Thr Leu Leu Thr Leu His Thr Leu Asn Met
 85 90 95
 His Leu Asn Phe Trp Lys Leu Ile Arg Gly Ser Leu His Xaa Xaa Xaa
 100 105 110
 Gln Gln Arg Ser Xaa
 115

<210> 10167
 <211> 266
 <212> PRT
 <213> B.fragilis

<400> 10167
 Val Leu Lys Asp Met Lys Gln Asn Tyr Ala Lys Ile Ile Ser Gly Phe
 1 5 10 15
 Ile Leu Ala Gly Leu Leu Thr Phe Ser Ser Cys Gln Ser Thr His Glu
 20 25 30
 Met Ala Lys Thr Asp Tyr Gln Ile Ala Lys Val Glu Gly Arg Met Ile
 35 40 45
 Asp Ile Asp Ala Lys Trp Asp Thr His Pro Asp Ala Val Ala
 50 55 60
 Ile Leu Lys Pro Tyr Lys Glu Lys Ile Asp Asn Met Met Tyr Glu Val
 65 70 75 80
 Ile Gly Ser Ser Glu Gln Lys Met Asp Lys Gly His Pro Glu Ser Leu
 85 90 95
 Leu Ser Asn Leu Val Ala Glu Val Leu Arg Gln Ala Ala Thr Lys Val
 100 105 110
 Gln Asp Lys Pro Ala Asp Met Gly Leu Val Asn Met Gly Gly Leu Arg
 115 120 125
 Asn Ile Leu Pro Ala Gly Asp Ile Thr Val Gly Thr Val Tyr Glu Ile
 130 135 140
 Leu Pro Phe Glu Asn Ser Leu Cys Val Met Lys Met Lys Gly Thr His
 145 150 155 160
 Leu Lys Ala Leu Leu Thr Ser Ile Ala Ser Leu Lys Gly Glu Gly Val
 165 170 175
 Ser Gly Ile Arg Met Glu Ile Thr Lys Asp Gly Lys Leu Leu Asn Ala
 180 185 190
 Thr Val Gly Gly Gln Pro Ile Asp Asp Asn Lys Leu Tyr Thr Val Ala
 195 200 205
 Thr Ile Asp Tyr Leu Ala Asp Gly Asn Gly Ser Met Glu Ala Phe Leu
 210 215 220
 Gln Ala Asp Asp Arg Val Cys Pro Glu Gly Ala Thr Leu Arg Gly Leu
 225 230 235 240
 Phe Leu Asp Tyr Val Arg Gln Gln Thr Ala Ala Gly Lys Lys Ile Thr
 245 250 255
 Ser Ala Leu Asp Gly Arg Ile Thr Val Lys
 260 265

<210> 10168
 <211> 724
 <212> PRT
 <213> B.fragilis

<400> 10168
 Ser Thr Met Leu Lys Arg Thr Phe Ile Leu Ile Gly Leu Val Leu Ser

6011-10167-266

1	5	10	15
Phe Cys Ser Leu Pro Ala Gln Glu Leu Ile Gln Ile Thr Thr Arg Asn			
20	25	30	
Thr Ala Leu Val Phe Arg Val Ala Asn Gln Ser Leu Arg Gln Val Tyr			
35	40	45	
Tyr Gly Pro Arg Leu Ala Asp Thr Asp Val Leu Gln Lys Gln Gly Asn			
50	55	60	
Asn Phe Pro Ala Tyr Ser Thr Tyr Gly Met Gly Glu Gln Asn Glu Val			
65	70	75	80
Ala Leu His Ala Val His Ala Asp Gly Asn Thr Ser Thr Leu Leu Asn			
85	90	95	
Phe Glu Asn Val Lys Gln Glu Ser Pro Glu Pro Gly Ile Thr Leu Thr			
100	105	110	
Thr Ile Ser Leu Lys Asp Pro Leu Tyr Pro Phe Gln Val Lys Leu Phe			
115	120	125	
Tyr Lys Ala Tyr Glu Glu Ser Asp Leu Ile Glu Gln Trp Thr Ile Tyr			
130	135	140	
Gln His Thr Glu Lys Lys Pro Val Thr Leu Tyr Gln Phe Ala Ser Ala			
145	150	155	160
Gln Leu Ser Phe Lys Ser Ser Ser Tyr Arg Leu Thr His Phe Ala Gly			
165	170	175	
Asp Trp Ala Gly Glu Cys Asn Met Ser Glu Val Glu Leu Thr Glu Gly			
180	185	190	
Ile Lys Val Ile Asp Ser Lys Leu Gly Thr Arg Ala Thr Phe Phe Ala			
195	200	205	
His Pro Met Cys Leu Leu Ser Leu Asn Gly Arg Met Thr Glu Asp Asn			
210	215	220	
Gly Glu Val Ile Gly Met Ala Leu Ala Trp Pro Ala Asn Phe Lys Leu			
225	230	235	240
Glu Phe Glu Lys Asn Asn Asn Gln Glu Leu Arg Val Leu Ala Gly Met			
245	250	255	
Asn Pro Tyr Ala Ser His Tyr Lys Leu Lys Lys Gly Asp Val Phe Gln			
260	265	270	
Thr Pro Ser Phe Leu Tyr Thr Tyr Ser Thr Lys Gly Asn Gly Gln Val			
275	280	285	
Ser Arg Asn Phe His Arg Trp Ala Arg Lys Tyr Gly Leu Arg His Gly			
290	295	300	
Glu Asn Ser Arg Tyr Thr Leu Met Asn Asn Trp Glu Ala Thr Tyr Phe			
305	310	315	320
Asn Phe Asn Glu Pro Lys Leu Lys Ser Ile Ile Glu Asp Ala Ala Gly			
325	330	335	
Met Gly Phe Glu Leu Phe Leu Leu Asp Asp Gly Trp Phe Gly Gln Lys			
340	345	350	
His Pro Arg Asn Asn Asp Asp Ala Gly Leu Gly Asp Trp Val Val Asn			
355	360	365	
Lys Glu Lys Leu Pro Asn Gly Leu Gly Trp Leu Val Lys Gln Cys Thr			
370	375	380	
Asp Asn Asp Ile Lys Phe Gly Ile Trp Val Glu Pro Glu Met Val Asn			
385	390	395	400
Pro Gln Ser Glu Leu Phe Glu Lys His Pro Asp Trp Val Ile Gln Gln			
405	410	415	
Pro Gly Arg Glu His Ile Leu Phe Arg Arg Gln Leu Val Leu Asp Leu			
420	425	430	
Ser Asn Pro Glu Val Gln Glu Phe Val Tyr Lys Ser Val His Asp Ile			
435	440	445	
Leu Lys Asp Asn Pro Gln Ile Ala Phe Val Lys Trp Asp Cys Asn Arg			
450	455	460	
Ala Val Thr Asn Pro Gly Ser Thr Tyr Leu Pro Ala Asp Glu Gln Ser			
465	470	475	480

His Ile Trp Ile Glu Tyr Gly Arg Gly Leu Leu Asn Val Phe Lys Lys
 485 490 495
 Val Arg Asp Ser His Pro Asp Val His Phe Met Leu Cys Ser Gly Gly
 500 505 510
 Gly Gly Arg Leu Asp Tyr Gly Ser Leu Arg Tyr Phe Glu Glu Tyr Trp
 515 520 525
 Pro Ser Asp Asn Thr Asp Ala Leu Gln Arg Ile Leu Ile Gln Trp Gly
 530 535 540
 Asn Ser Gln Phe Phe Pro Ser Ile Ala Met Cys Cys His Val Ser Ala
 545 550 555 560
 Ser Pro Asn His Gln Thr Gly Arg Thr Thr Pro Leu Lys Phe Arg Phe
 565 570 575
 Asp Val Ala Met Gln Gly Ala Leu Gly Met Asp Leu Gln Pro Ser Thr
 580 585 590
 Met Asn Glu Lys Glu Val Ile Phe Ala Lys Glu Ala Ile Lys Thr Tyr
 595 600 605
 Glu Ser Ile Arg Asn Ile Val Phe Thr Gly Asp Leu Tyr Arg Ile Leu
 610 615 620
 Ser Pro Tyr Glu Gly Asn Arg Thr Ser Met Met Tyr Val Leu Pro Asp
 625 630 635 640
 Lys Ser Arg Ala Val Phe Tyr Ala Tyr Gln Leu Lys Ser His Ile Gly
 645 650 655
 Glu Val Ser Ala Pro Met Arg Phe Lys Gly Leu Ser Pro Asp Lys Lys
 660 665 670
 Tyr Asn Val Lys Glu Leu Asn Ile Tyr Pro Gly Ser Arg Ala Ala Thr
 675 680 685
 Gly Ser Ala Asn Gly Gln Ser Phe Ser Gly Asp Phe Leu Met Asn Gln
 690 695 700
 Gly Leu Pro Ile Gly Leu Ser Gly Asp Tyr Ser Ser Ala Val Ile Glu
 705 710 715 720
 Leu Glu Gln Gln

<210> 10169
 <211> 1029
 <212> PRT
 <213> B.fragilis

<400> 10169
 Val Leu Ile Gly Leu Gly Ile Ser Ala Gly Leu Leu Ser Pro Asn Tyr
 1 5 10 15
 Val Phe Ala Thr Ser Leu Glu Thr Tyr Glu Asn Gln Ser Val Ala Ala
 20 25 30
 Val Gln Gln Ala Arg Lys Ile Thr Gly Thr Leu Thr Asp Ala Val Gly
 35 40 45
 Glu Pro Ile Ile Gly Ala Thr Val Leu Glu Lys Gly Asn Pro Ser Asn
 50 55 60
 Gly Thr Ile Thr Asp Ile Asn Gly Lys Phe Ser Leu Ser Val His Pro
 65 70 75 80
 Asn Ala Val Ile Ser Ile Ser Tyr Ile Gly Tyr Ile Thr Gln Asn Ile
 85 90 95
 Lys Ile Thr Asn Gln Thr Ser Leu Lys Val Val Met Met Asp Asp Thr
 100 105 110
 Gln Ala Leu Glu Glu Val Val Val Val Gly Tyr Gly Ser Gln Lys Lys
 115 120 125
 Ala Asn Leu Thr Gly Ala Val Ser Ser Val Lys Met Asp Glu Val Leu
 130 135 140
 Gly Asp Arg Pro Ile Leu Asn Ala Ser Asp Ala Leu Gln Gly Ala Val
 145 150 155 160

Pro Gly Leu Phe Val Ser Asn Gly Gly Asn Ala Pro Gly Thr Ser Lys
 165 170 175
 Ser Phe Gln Ile Arg Gly Ala Tyr Ser Val Gly Val Lys Asn Ser Asp
 180 185 190
 Gly Ser Tyr Gly Asn Thr Ile Lys Pro Leu Val Leu Ile Asp Asn Val
 195 200 205
 Glu Gly Asp Leu Asp Met Val Asn Pro Glu Asp Ile Glu Ser Ile Ser
 210 215 220
 Val Leu Lys Asp Ala Ala Ser Ala Ala Ile Tyr Gly Ala Arg Ala Ala
 225 230 235 240
 Gly Gly Val Ile Val Val Thr Thr Lys Arg Pro Lys Gly Ala Ala Lys
 245 250 255
 Phe Ser Leu Asn Tyr Asn Asn Asn Phe Ala Phe Gly Thr Ala Val Asn
 260 265 270
 Leu Pro Lys Gln Ala Pro Leu Met Asp Tyr Leu Gln Ala Tyr Leu Asp
 275 280 285
 Cys Gly Tyr Ser Asp Ala Tyr Trp Ser Leu Gly Ser Pro Ser Val Ser
 290 295 300
 Lys Trp Met Glu Tyr Leu Ser Glu Tyr Gln Lys Asn Pro Ser Ala Phe
 305 310 315 320
 Asn Thr Val Gly Asp Gly Ile Tyr Met Asp Glu Ser Gly Val Pro Tyr
 325 330 335
 Tyr Leu Asn Glu Lys Asp Leu Tyr Lys Asn Phe Met Glu Thr Ser Phe
 340 345 350
 Gln Met Thr His Asn Ile Ser Ala Ser Gly Gly Thr Asp Lys Leu Arg
 355 360 365
 Tyr Arg Ile Ser Gly Gly Tyr Thr Ser Asn Asp Gly Val Leu Val Ser
 370 375 380
 Asp Arg Asp Lys Phe Glu Arg Met Asn Ile Asn Thr Phe Ile Ser Ala
 385 390 395 400
 Asp Val Thr Asn Trp Phe Thr Gln Glu Val Thr Met Ser Tyr Ala His
 405 410 415
 Ser Leu Gln Thr Ser Pro Gly Gly Met Gly Gly Val Tyr Asn Thr Arg
 420 425 430
 Leu Val Ser Tyr Tyr Pro Glu Gly Asp Leu Pro Ala Ser Val Asn Thr
 435 440 445
 Leu Ala Asn Glu Asp Leu Pro Leu Phe Thr Pro Arg Asn Gln Ile Leu
 450 455 460
 Leu Ser Asn Pro Val Asn Asn Asn Asp Asn Pro Arg Ile Phe Leu
 465 470 475 480
 Lys Ser Ile Leu Lys Pro Leu Lys Gly Leu Glu Ala Val Phe Glu Tyr
 485 490 495
 Thr Phe Asp Lys Asn Ile Tyr Asp Tyr His Trp Tyr Thr Gly Gln Tyr
 500 505 510
 Asp Tyr Thr Thr Ile Gln Gly Gly Ser Ser Lys Ser Phe Val Asp Asp
 515 520 525
 Tyr Leu Arg Lys Tyr Lys Gln His Thr Asn Tyr Asn Ala Ile Asn Val
 530 535 540
 Tyr Ala Thr Tyr Ser Lys Lys Phe Gly Asp His Asn Phe Lys Val Met
 545 550 555 560
 Ala Gly Phe Asn Gln Glu Ser Ser Tyr Gln Glu Thr Leu Asp Ala Tyr
 565 570 575
 Ser Tyr Asn Gln Ala Val Ile Asp Val Pro Ala Met Gly Ser Gly Thr
 580 585 590
 Gly Thr Ile Lys Ala Thr Asp Ser Tyr Ser Glu Tyr Ala Val Arg Gly
 595 600 605
 Gly Phe Phe Arg Val Asn Tyr Asn Tyr Gln Asp Lys Tyr Leu Leu Glu
 610 615 620
 Val Asn Gly Arg Tyr Asp Gly Ser Ser Lys Phe Pro Lys Ser Ser Arg

165 170 175
 180 185 190
 195 200 205
 210 215 220
 225 230 235 240
 245 250 255
 260 265 270
 275 280 285
 290 295 300
 305 310 315 320
 325 330 335
 340 345 350
 355 360 365
 370 375 380
 385 390 395 400
 405 410 415
 420 425 430
 435 440 445
 450 455 460
 465 470 475 480
 485 490 495
 500 505 510
 515 520 525
 530 535 540
 545 550 555 560
 565 570 575
 580 585 590
 595 600 605
 610 615 620

625		630		635		640
Phe Gly Phe Phe	Pro Ser Val Ser Ala Gly Trp Gln Ile Ala Gln Glu					
	645		650		655	
Lys Phe Met Glu Ser Thr Arg Asn Trp Leu Asp Gly Leu Lys Ile Arg						
	660		665		670	
Ala Ser Tyr Gly Val Ile Gly Asn Gln Asn Val Asn Pro Tyr Thr Phe			680		685	
	675					
Thr Pro Thr Met Ser Val Ser Asn Lys Ser Thr Ser Trp Ile Ile Asp			695		700	
	690					
Asn Thr Tyr Val Thr Ser Ile Ser Ser Leu Pro Ala Leu Val Ser Gln						
705		710		715		720
Asn Phe Thr Trp Glu Lys Val Gly Thr Val Asn Val Gly Leu Asp Ile						
	725		730		735	
Asn Leu Phe Asn Asn Arg Leu Asn Gly Val Phe Glu Trp Tyr Gln Arg						
	740		745		750	
Asn Thr Asn Gly Met Leu Ala Pro Gly Val Gln Leu Pro Ala Val Val						
	755		760		765	
Gly Ala Ser Ala Pro Tyr Gln Asn Thr Ala Asp Met Arg Thr Arg Gly						
	770		775		780	
Trp Glu Leu Ser Leu Asn Trp Arg Asp Gln Ile Gly Lys Val Gly Tyr						
785		790		795		800
Arg Leu Gly Phe Asn Leu Ser Asp Tyr Lys Ser Lys Ile Thr Lys Tyr						
	805		810		815	
Asp Asp Asn Ala Thr Thr Lys Leu Leu Ser Ser Phe Tyr Pro Gly Gln						
	820		825		830	
Val Met Gly Glu Ile Trp Gly Tyr Ile Ala Asp Gly Tyr Tyr Ser Val						
	835		840		845	
Asp Asp Phe Glu Asp Thr Ser Ser Trp Lys Leu Lys Glu Gly Ile Thr						
	850		855		860	
Ser Ile Asn Gly Tyr Asn Val Arg Pro Gly Asp Val Lys Phe Lys Asn						
865		870		875		880
Leu Arg Asp Asp Glu Ser Ser Thr Asn Val Ile Thr Ser Gly Asp Asn						
	885		890		895	
Thr Phe Asp Asn Pro Gly Asp Arg Lys Val Ile Gly Asn Thr Thr Pro						
	900		905		910	
Arg Tyr Gln Tyr Gly Ile Asn Leu Gly Ala Asn Tyr Ala Gly Phe Asp						
	915		920		925	
Leu Asn Val Ile Leu Gln Gly Thr Gly Lys Arg Asp Tyr Trp Ile Ser						
	930		935		940	
Asn Val Leu Thr Phe Pro Met Asn Gly Asp Asn Phe Ile Pro Leu Phe						
	945		950		955	
Asp Gly Leu Ser Asp Tyr Trp Met Pro Lys Asp Pro Asp Asn Gly Asp						
	965		970		975	
Trp Thr Ala Val Asn Pro Asn Ala Lys Tyr Pro Arg Leu Tyr Gly Asn						
	980		985		990	
Arg Gly Asn Ser Gly Ser Asn Leu Arg Gln Ser Asp Lys Tyr Leu Ser						
	995		1000		1005	
Asp Ala Ser Tyr Leu Arg Ile Lys Asn Ile Thr Leu Ser Tyr Asn Val						
	1010		1015		1020	
Phe Thr Thr Gly Leu						
1025						

<210> 10170

<211> 202

<212> PRT

<213> B.fragilis

<400> 10170

Ile Ile Asp Ile Phe Val Asp Tyr Phe Asn Leu Lys Thr Thr Thr Ser

1	5	10	15
Met Arg Ile Lys Leu Leu Phe Leu Ile Ser Ile Leu Phe Cys Thr Gly			
20		25	30
Ser Tyr Ala Gln Glu Thr Val Thr Glu Pro Asp Phe Ile Gly Glu Val			
35		40	45
Leu Val Leu Asn Pro Asp Asn Ser Thr Thr Pro Leu Glu Lys Ala Thr			
50		55	60
Val Lys Ile Lys Thr Lys Ala Asn Ala Ser Ile Tyr Leu Val Gly Met			
65		70	75
Gly Lys Val Lys Thr Lys Ile Asn Val Asp Gly Pro Ser Ala Gln Val			
85		90	95
Arg Leu His Gln Gly Asp Asp Phe Lys Leu Ile Val Arg Ala Val Asp			
100		105	110
Asn Asn Thr Asp Pro Met Ser Ile Ile Asn Ile Phe Gln Phe Glu Thr			
115		120	125
Gly Lys Lys Val Arg Lys Ala Glu Leu Ser Ser Leu Ser Thr Phe Gly			
130		135	140
Gly Ala Ser Ser Asn Asn Leu Glu Leu Leu Pro Tyr Thr Ala Lys Lys			
145		150	155
Tyr Gly Glu Ser Ser Tyr Leu Ile Thr Leu Lys Glu Lys Pro Val Gly			
165		170	175
Glu Tyr Gly Ile Thr Val Arg Asn Pro Asn Ser Leu Asp Glu Lys Asn			
180		185	190
Ile Ile Val Ala Ser Phe Gly Ile Asp Gln			
195		200	

<210> 10171

<211> 538

<212> PRT

<213> B.fragilis

<400> 10171

Asp Arg Phe Ile Ser Gly Ser Leu Gly Thr Glu Ser Ile Lys Gly Glu			
1	5	10	15
Thr Ser Gly Gly Pro Leu Ser Glu Tyr Thr Arg Val Tyr Arg Ile Lys			
20		25	30
Arg Arg Tyr Arg Asp Asn Leu Asn Ser Ser Phe Asn Lys Asn Lys Asn			
35		40	45
Asp Met Arg Asn Ile Gln Arg Thr Ile Leu Trp Ile Ala Gly Leu Leu			
50		55	60
Phe Cys Leu Pro Ser Ser Ser Ser Asn Pro Val Val Ile Gly Asn Ser			
65		70	75
Arg Phe Thr Phe Ile Thr Asp His Leu Val Arg Met Glu Tyr Ala Gln			
85		90	95
Gln Gly Lys Phe Leu Asn Asp Ser Thr Leu Phe Ala Val Asp Arg Thr			
100		105	110
Pro Arg Cys Thr Glu Val Lys Val Glu Arg Lys Glu Gly Asn Arg Tyr			
115		120	125
Ile Met Thr Thr Pro Ala Met Arg Ile Glu Tyr Tyr Asn Asp Gly Phe			
130		135	140
Pro Phe Gly Gln Thr Asn Leu Phe Val Tyr Phe Arg Asn Gly Asp Ser			
145		150	155
Pro Lys Glu Lys Arg Trp Tyr Ile Ala Ser Arg Gln Ser Arg Asn Leu			
165		170	175
Leu Gly Ala Val Thr Thr Leu Asp Asp Val Glu Gly Pro Ile Asp Arg			
180		185	190
Gln Glu Gly Leu Leu Ser Arg Asp Gly Trp Tyr Leu Ile Asn Asp Thr			
195		200	205
Gly Lys Glu Val Leu Lys Asn Gly Trp Val Ala Thr Arg Asp Arg Asn			

210	215	220
His Val Gln Asp Leu Tyr Leu Phe Val Tyr Gly Asn Asp Tyr Lys Ala		
225	230	235
Ala Leu Lys Ser Leu Gln Ala Val Ser Gly Pro Ser Pro Met Thr Arg		240
	245	250
Lys Tyr Val His Gly Ser Trp Tyr Cys Arg Trp Trp Asn Tyr Thr Asp		255
	260	265
Glu Asp Tyr Arg Gln Leu Val Arg Glu Tyr Arg Glu His Asp Phe Pro		270
	275	280
Leu Asp Ile Met Val Phe Asp Met Gly Trp His Thr Gln Asn Ala Lys		285
	290	295
Val Gly Thr Gly His Ala Gly Thr Arg Gly Trp Thr Gly Tyr Ser Trp		300
305	310	315
Asn Arg Lys Leu Ile Pro Glu Pro Glu Lys Leu Ile Lys Asp Phe Lys		320
	325	330
Asp Asp His Ile Tyr Val Val Leu Asn Glu His Pro His Asp Gly Ile		335
	340	345
Arg Pro His Glu Asp Ser Tyr Gln Ala Phe Val Arg Asp Leu Gly Val		350
	355	360
Asp Thr Gln Gln Thr Gly Val Pro Leu Phe Asp Ala Gly Asn Arg Asp		365
370	375	380
Tyr Met Asn Ala Phe Met Lys His Ala His Gln Glu Ser Asp Ser Met		385
	390	395
Gly Val Ala Phe Trp Trp Leu Asp Trp Gln Gln Asp Tyr Leu Tyr Pro		400
	405	410
Leu Val Arg Gly Thr Asn Met Lys His Leu Pro Trp Met Asn Arg Ile		415
	420	425
Tyr Tyr Asn Tyr Ser Ser Gly Asn His Leu Arg Gly Ala Gly Phe Ser		430
	435	440
Arg Trp Ala Gly Trp Gly Asp His Arg His Pro Ile Gln Phe Ser Gly		445
	450	455
Asp Ala Val Gly Asn Trp Asp Leu Leu Arg Phe Glu Val Asp Leu Thr		460
465	470	475
Thr Thr Ser Gly Asn Ala Gly Cys Phe Phe Trp Ala His Asp Leu Gly		480
	485	490
Gly Phe Tyr Asp Gly Thr Asp Pro Glu Leu Tyr Thr Arg Trp Thr Gln		495
	500	505
Phe Gly Leu Asn Ser Ser Leu Arg Ile His Ser Val Tyr Asp Glu		510
	515	520
Asn Ser Thr Ala Val Pro Gly Ser Gly Ala		525
530	535	

<210> 10172

<211> 436

<212> PRT

<213> B.fragilis

<400> 10172

Cys Leu Thr Ile Arg Gln Gly Trp Ile His Glu Ile Lys Thr Asp Ile		
1	5	10
Asn Met Ile Asp Ile Trp Gln Glu Ile Tyr Gly Thr Ile Lys Arg Asn		15
	20	25
Lys Leu Arg Thr Leu Leu Thr Gly Phe Ala Val Ala Trp Gly Ile Phe		30
	35	40
Met Leu Ile Val Leu Leu Gly Ala Gly Asn Gly Leu Ile His Ala Phe		45
	50	55
Glu Lys Ser Ser Ser Ala Arg Ala Leu Asn Ser Ile Lys Ile Tyr Pro		60
65	70	75
Gly Trp Thr Gly Lys Pro Tyr Asp Gly Leu Lys Glu Gly Arg Arg Ile		80

<400> 10173															
Ser	Arg	Leu	Ile	Met	Arg	Val	Asp	Met	Asp	Thr	Cys	Glu	Glu	Ile	Leu
1				5					10					15	
Val	Thr	Ile	Thr	Arg	Asn	Lys	Thr	Arg	Ser	Leu	Leu	Thr	Ala	Phe	Gly
			20					25					30		
Val	Phe	Trp	Gly	Ile	Phe	Met	Leu	Val	Ala	Leu	Met	Gly	Gly	Gly	Gln
		35					40					45			
Gly	Met	Gln	Glu	Met	Met	Gln	Ala	Glu	Phe	Glu	Gly	Phe	Ala	Thr	Asn

50		55		60
Ser Gly Phe Met Ala	Ser Gln Lys Thr Gly Glu Ala Tyr Lys Gly Phe			
65	70	75	80	
Arg Lys Gly Arg Tyr Trp Asp Ile Glu Asn Ala Asp Ile Glu Arg Ile				
85	90	95		
Arg Lys Lys Val Lys Asp Ile Asp Val Ile Thr Pro Ser Ile Ala Arg				
100	105	110		
Trp Gly Ser Thr Ala Ile Tyr Gly Glu Lys Lys Tyr Asp Cys Ser Val				
115	120	125		
Lys Gly Leu Tyr Pro Asp Tyr Ala Lys Ile Glu Asn Gln Asp Met Ala				
130	135	140		
Tyr Gly Arg Phe Ile Asn Asp Val Asp Val Arg Glu Gly Arg Lys Val				
145	150	155	160	
Cys Val Ile Gly Lys Arg Val Tyr Glu Ser Leu Phe Asn Pro Gly Glu				
165	170	175		
Asp Pro Cys Gly Lys Tyr Val Arg Val Asp Gly Ile Tyr Tyr Gln Val				
180	185	190		
Ile Gly Met Cys Val Ser Glu Gly Asn Met Asn Ile Gln Gly Arg Ala				
195	200	205		
Ser Glu Ala Val Val Leu Pro Phe Ser Thr Met Gln Gln Ala Tyr Asn				
210	215	220		
Met Gly Lys Arg Ile Asp Val Ile Cys Tyr Thr Val Lys Pro Gly Lys				
225	230	235	240	
Lys Val Ser Asp Leu Glu Pro Glu Ile Glu Ala Ile Leu Lys Glu Ala				
245	250	255		
His Tyr Ile Ser Pro Asp Asp Lys Gln Ala Val Met Lys Leu Asn Ala				
260	265	270		
Gly Gly His Val Leu Asn Asp Gly				
275	280			

<210> 10174
 <211> 183
 <212> PRT
 <213> B.fragilis

<400> 10174

Glu Lys Lys Ile Ala Thr Gln Glu Val Trp Leu Pro Gly Gly Thr Asp				
1	5	10	15	
Trp Tyr Asn Phe Phe Thr Gly Glu Arg Gln Glu Gly Gly Gln Val Ile				
20	25	30		
Lys Thr Lys Ser Pro Leu Glu Gln Phe Pro Leu Phe Ile Lys Gly Gly				
35	40	45		
Cys Pro Leu Pro Met Gln Pro Tyr Thr Glu Arg Met Cys Ser Thr Pro				
50	55	60		
Leu Thr Glu Leu Ile Val Arg Cys Tyr Pro Gly Lys Glu Gly Ala Asn				
65	70	75	80	
Asn Thr Tyr Ile Leu Tyr Glu Asp Asp Gly Leu Thr Gln Asp Tyr Leu				
85	90	95		
Gln Gly Lys Tyr Ala Thr Thr Arg Leu Asn Tyr Gln Lys Ser Gly Gly				
100	105	110		
Gln Thr Ile Thr Val Ser Pro Val Glu Gly Thr Tyr Glu Gly Gln				
115	120	125		
Pro Arg Lys Arg Ala Tyr Arg Ile Glu Leu Pro Gly Ile Pro Val Gln				
130	135	140		
Ala Arg Val Ser Val Asn Gly Lys Lys Ala Arg Thr Thr Pro Asn Gln				
145	150	155	160	
Glu Leu Asn Gly Val Ile Val Pro Ile Lys Val Met Asp Ile His Lys				
165	170	175		
Pro Ile Val Ile Lys Ile Gln				

180

<210> 10175
 <211> 116
 <212> PRT
 <213> B.fragilis

<220>
 <221> UNSURE
 <222> (92)
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 10175
 Pro Trp Arg Ile Leu Arg Arg Asn Arg Pro Gly Thr Leu His Ser Leu
 1 5 10 15
 Asp Thr Val Arg Ile Ala Glu Phe Phe Thr Pro His Pro Leu Gly Val
 20 25 30
 Arg Arg Lys Leu Asp Arg Arg Pro Trp Leu Trp Gly Val Glu Ala Glu
 35 40 45
 Lys Ala Met His Arg Ile Tyr His Leu Arg Ser Gln Leu Met Pro Tyr
 50 55 60
 Ile Tyr Ser Ser Val Arg Gln Cys His Thr Asp Met Leu Pro Leu Asn
 65 70 75 80
 Arg Gly Met Tyr Ile Glu Tyr Pro Asp Glu Glu Xaa Ala Tyr Gln Tyr
 85 90 95
 Pro Gly Gln Phe Leu Phe Gly Asp Leu Leu Leu Gly Ala Pro Ile Thr
 100 105 110
 Ala Lys Gly Glu
 115

<210> 10176
 <211> 291
 <212> PRT
 <213> B.fragilis

<400> 10176
 Ile Met Ile Phe Pro Ile Asn Lys Lys His Thr Phe Phe Ser Lys Glu
 1 5 10 15
 Lys Thr Leu Leu Thr Phe Phe Phe Ile Leu Phe Ile Ser Phe Ser Ala
 20 25 30
 Phe Gly Gln Gln Asp Lys Lys Leu Ile Leu Leu Gln Thr Ser Asp Val
 35 40 45
 His Ser Arg Leu Glu Pro Ile Asn Gln Glu Gly Asp Arg Asn Tyr Asp
 50 55 60
 Lys Gly Gly Phe Val Arg Arg Ala Thr Phe Val Lys Glu Phe Arg Lys
 65 70 75 80
 Glu His Pro Asp Met Leu Leu Phe Asp Cys Gly Asp Ile Ser Gln Gly
 85 90 95
 Thr Pro Tyr Tyr Asn Met Phe Gln Gly Glu Val Glu Val Lys Met Met
 100 105 110
 Asn Glu Met Lys Tyr Asp Ala Met Thr Ile Gly Asn His Glu Phe Asp
 115 120 125
 Phe Asp Leu Asp Asn Met Ala Arg Leu Phe Arg Met Ala Asp Phe Pro
 130 135 140
 Val Val Cys Ala Asn Tyr Asp Val Ser Ala Thr Val Leu Lys Asp Leu
 145 150 155 160
 Val Lys Pro Tyr Val Val Phe Glu Arg Asp Gly Val Lys Ile Gly Val
 165 170 175
 Leu Gly Leu Gly Cys Gln Leu Glu Gly Met Val Gln Ala Asn Lys Cys

Val	Gly	Val	Val	Tyr	Asn	Asp	Pro	Val	Thr	Val	Ala	Asn	Glu	Val	Ala
		180						185					190		
		195					200					205			
Ala	Leu	Leu	Lys	Glu	Lys	Glu	Gly	Cys	Asp	Val	Val	Val	Cys	Leu	Ser
		210					215					220			
His	Leu	Gly	Val	Gln	Tyr	Asp	Glu	Asn	Gln	Leu	Ile	Pro	Lys	Thr	Arg
		225				230					235				240
Asn	Ile	Asp	Val	Val	Leu	Gly	Gly	His	Ser	His	Thr	Phe	Met	Lys	Gly
			245						250					255	
Pro	Lys	Thr	Leu	Leu	Asn	Met	Asp	Gly	Lys	Asn	Val	Ser	Leu	Met	His
			260					265					270		
Thr	Gly	Lys	Ser	Gly	Ile	Tyr	Val	Gly	Gln	Met	Asp	Leu	Thr	Leu	Glu
		275					280					285			
Lys	Lys	Lys													
		290													

<210> 10177
 <211> 114
 <212> PRT
 <213> B.fragilis

<400> 10177

Met	Asn	Asn	Ser	Lys	Ile	Ile	Asn	Val	Arg	Leu	Met	Lys	Lys	Val	Leu
1				5					10					15	
Val	Leu	Val	Leu	Ser	Phe	Leu	Ser	Val	Thr	Ala	Phe	Ala	Gln	Asn	Ile
			20					25					30		
Thr	Val	Lys	Gly	Ile	Val	Lys	Asp	Gly	Thr	Gly	Glu	Pro	Ile	Ile	Gly
		35					40					45			
Gly	Ser	Val	Leu	Val	Lys	Gly	Ser	Ser	Ile	Gly	Thr	Val	Thr	Asp	Val
		50				55					60				
Asp	Gly	Asn	Tyr	Thr	Leu	Ser	Asn	Val	Pro	Ala	Asp	Gly	Val	Leu	Glu
		65			70					75				80	
Phe	Ser	Tyr	Ile	Gly	Met	Lys	Lys	Gln	Asp	Val	Lys	Val	Ser	Gly	Lys
			85					90					95		
Thr	Val	Ile	Asn	Val	Val	Leu	Gln	Glu	Asp	Thr	Gln	Ile	Leu	Asp	Glu
			100					105					110		
Val	Gly														

<210> 10178
 <211> 118
 <212> PRT
 <213> B.fragilis

<400> 10178

Ala	Gly	Glu	Pro	Ala	Phe	Cys	Asp	Glu	Asn	Pro	Ile	Asp	Cys	His	Phe
1				5					10					15	
Asp	Val	Lys	Ser	Tyr	Pro	Ala	Gly	Thr	Thr	Val	His	Asn	Asn	Asp	Thr
			20					25					30		
Asn	Ile	Ile	Tyr	Leu	Ile	Phe	Cys	Met	Lys	Gly	His	Ala	Arg	Ile	Thr
		35					40					45			
Ser	Thr	Phe	Phe	His	Asp	Glu	Ile	Leu	Cys	Ala	Gly	Glu	Val	Met	Phe
		50				55					60				
Val	Pro	Arg	Gly	Ser	Glu	Tyr	Ser	Gly	Val	Ala	Leu	Ser	Asp	Val	Thr
		65			70					75				80	
Leu	Leu	Val	His	Lys	Phe	Asn	Asn	Thr	Val	Cys	Gln	Thr	Glu	Asn	Cys
			85					90					95		
Ile	Leu	Ser	Tyr	Leu	Tyr	Ser	His	Lys	Asn	Ile	Asp	Ser	Lys	Ile	Tyr
			100					105					110		

Cys Cys Gln Arg Arg Thr
115

<210> 10179

<211> 301

<212> PRT

<213> B.fragilis

<400> 10179

Arg	Arg	Gln	Ala	Met	Met	Asn	Lys	Phe	Leu	Asn	Thr	Lys	Val	Leu	Tyr
1				5					10					15	
Ile	Phe	Ile	Ser	Val	Ile	Ile	Phe	Ile	Met	Val	Phe	Leu	Leu	Val	Met
			20					25					30		
Arg	Ala	Cys	Ser	Gln	Lys	Gln	Pro	Ile	Gln	Ala	Val	Val	Thr	Pro	Ser
	35						40					45			
Asp	Pro	Val	Val	Gly	Glu	Glu	Ile	Phe	Phe	Ser	Asp	Ser	Thr	Ser	Gly
	50					55					60				
Ala	Arg	Ile	Trp	Tyr	Trp	Glu	Phe	Gly	Asn	Asn	Glu	Thr	Ser	Thr	Gln
65					70				75						80
Arg	Ser	Gly	His	His	Arg	Phe	Lys	Gln	Lys	Gly	Val	Tyr	Lys	Ile	Arg
			85					90					95		
Leu	Thr	Val	Asn	Gly	Asn	Leu	Glu	Arg	Tyr	Phe	Asp	Val	Arg	Val	Lys
			100					105					110		
Glu	Lys	Thr	Asn	Thr	Glu	Asp	Leu	His	Leu	Val	His	Ile	Ile	Ala	Pro
		115					120					125			
Lys	Glu	Ala	Ile	Gln	Gly	Glu	Asn	Ile	Ile	Phe	Arg	Gly	Glu	Gly	His
	130					135					140				
Asp	Glu	Gln	Trp	Arg	Trp	Glu	Phe	Gly	Glu	Thr	Gly	Met	Ile	Asp	Ser
145					150					155				160	
Arg	Glu	Lys	Thr	Ala	Leu	Tyr	Ala	Tyr	Thr	Glu	Pro	Gly	Glu	Tyr	Glu
				165					170					175	
Val	Leu	Leu	Asn	Thr	Glu	Asn	Thr	Arg	Tyr	Pro	Ile	Arg	His	Arg	Ile
			180					185					190		
Asn	Ile	Leu	Pro	Tyr	Tyr	Ser	Glu	Asn	Asp	Ser	Thr	Asp	Val	Met	Val
	195						200					205			
Leu	Ile	Gly	Leu	Asp	Ile	Lys	Glu	Lys	Leu	Gln	Asn	Ile	Ala	Asp	Gly
	210					215					220				
Lys	Pro	Phe	Asn	Val	Asn	Tyr	Asn	Tyr	Val	Val	Asp	Lys	Tyr	Phe	Asn
225					230					235					240
Asn	Asn	Pro	Asn	Thr	Leu	Val	Val	Ile	Asn	Asn	Asn	Lys	Tyr	Asn	Asp
			245					250						255	
Phe	Tyr	Ser	Tyr	Cys	Gln	Gly	Leu	His	His	Ile	Gly	Arg	Lys	Glu	Thr
			260					265					270		
Ile	Ile	Gln	Asn	Val	Ile	Val	Glu	Thr	Glu	Asp	Glu	Glu	Ser	Gly	Tyr
		275					280					285			
Ile	Thr	Gln	Leu	Thr	Val	Met	Gln	Ile	Glu	Lys	Lys	Lys			
	290					295					300				

<210> 10180

<211> 311

<212> PRT

<213> B.fragilis

<400> 10180

Thr	Gly	Asn	Lys	Pro	Met	Ile	Lys	Thr	Val	Ile	Thr	Gln	Leu	Tyr	Ile
1				5					10					15	
Ala	Phe	Cys	Leu	Ile	Cys	Phe	Phe	Ala	Cys	Glu	Lys	Gln	Lys	Glu	Glu
			20					25					30		
Phe	Pro	Asp	Ile	Arg	Ile	Gly	Lys	Glu	Gly	Val	Val	Asp	Glu	Leu	Ser

35	40	45
Leu Asn Lys Gln Thr Glu Lys Arg Leu Leu Leu Ser Gly Gly Asn Gly		
50	55	60
Lys Tyr Ile Val Asn Val Glu Asn Ala Gln Ile Ala Thr Ala Asp Ile		
65	70	75
Ser Met Asp Thr Leu Lys Val Lys Gly Trp Leu Glu Gly Glu Thr Phe		
85	90	95
Ala Thr Ile Ile Ser His Asp Lys Arg Ile Arg Leu Lys Ile Asn Val		
100	105	110
Val Phe Pro Glu Leu Gly Ile Ser His Ser Val Val Gln Leu Leu Pro		
115	120	125
Arg Phe Arg Ser Lys Phe Ile Ser Ile Ser Gly Gly Gly Glu Leu Thr		
130	135	140
Lys Leu Glu Glu Asp Asp Pro Ala Asp Ile Met Asp Met Lys Trp Asp		
145	150	155
Gly Ser Thr Gly Met Leu Glu Ile Tyr Pro Lys Tyr Glu Gly Glu Ala		
165	170	175
Arg Val Ile Ala Ile Ser Glu Asp Ala Lys Glu Lys Lys Val Ile His		
180	185	190
Ile Lys Val Arg Pro Glu Gly Lys Leu Glu Ile Pro Gly Trp Tyr Ser		
195	200	205
Thr Asn Ser Ser Ser Tyr Tyr Leu Ile Gln Asn Asn Asn Met Val Val		
210	215	220
Lys Arg Lys Gly Val Gly Thr Trp Ile Val Asn Ser Ala Arg Pro Tyr		
225	230	235
Gly Gly Gly Val Met Tyr Asn Ser Ser Tyr Ile Lys Ile Ala Pro Ile		
245	250	255
Met Asn Pro Val Gln Gly Asp Ser Ile Asp Leu Asn Ile Leu Arg His		
260	265	270
Gly Ser Leu Lys Pro Gln Ile Thr Glu Gly Ile His Arg Leu Tyr Val		
275	280	285
Glu Glu Val Arg Glu Ser Glu Val Met Leu Arg Gly Arg Gly Phe Lys		
290	295	300
Phe Leu Leu Pro Tyr Glu Lys		
305	310	

<210> 10181

<211> 281

<212> PRT

<213> B.fragilis

<400> 10181

Arg Leu Cys Lys Ser Lys Lys Arg Asn Glu Met Arg Lys Leu Phe Val	
1	5
Leu Leu Ile Ser Ile Val Val Leu Ser Ala Cys Ala Pro Val His Arg	
20	25
Phe Thr Gln Leu Arg Lys Leu Pro Arg Glu Tyr Ser Asp Asn Tyr Ser	
35	40
Ile Glu Gly Ile Lys Ala Pro Arg Ser Ala Ala His Arg Lys Pro Trp	
50	55
Ile Val Tyr Ser Asp Arg Val Glu Asn Ala Ala Tyr Val Asn Pro Gly	
65	70
Gly Arg Val Lys Ser Ala Glu Val Gly Leu Leu Asp Thr Phe Leu Val	
85	90
Ile Lys Thr Lys Gly Asp Tyr Leu Arg Leu Ile Lys Tyr Asn Pro Thr	
100	105
Asn Ile Lys His Asn Arg Met Thr Gln Arg Lys Lys Ala Glu Tyr Val	
115	120
Gly Trp Met His Arg Ser Arg Leu Ile Leu Ser Pro Ser Ser Ile Thr	

130	135	140
Asp Val Gln Ser Gly	Leu His Asp Lys Leu Leu Thr Ala Ile Thr Asp	
145	150	155
Thr Thr Ala Ile Met	Gln Ser Ala Thr Tyr Phe Thr Thr Ala Asp Ser	160
	165	170
Leu Lys Val Phe Gly	Asp Pro Glu Leu Gln Asn Gln Thr Gly Val Val	175
	180	185
Gly Ile His Ala Ile	Ile Tyr Ala Leu Lys His Ser Val Asp Lys Arg	190
	195	200
Ser Val Leu Val Ser	Lys Thr Pro Ser Leu Ser Ala Asp Lys Ile Gly	205
	210	215
Glu Gln Val Ile Gly	Trp Val Pro Ala Val Met Leu Gln Glu Ile Gly	220
225	230	235
His Gln Val Phe Thr	Gly Thr Ala Phe Ser Arg Val Pro Thr Leu Gln	240
	245	250
Lys Thr Leu Lys Tyr	Ala Pro Met Ile Tyr Pro Tyr His Thr Asp Ser	255
	260	265
Thr Cys Ser Phe Val	Ser Gly Thr Leu	270
	275	280

<210> 10182

<211> 518

<212> PRT

<213> B.fragilis

<400> 10182

Pro Val Ile Asp Lys	Lys Asp Asn His Val Phe Asn Ile Asn Gly Lys
1	5
Arg Ile Ser Tyr Thr	Arg Gly Asn Gln Ile Lys Gln Glu Leu Lys Arg
	20
Ile Asn Ile Leu Phe	Ala Met Glu Gln Ser Ser Arg Leu Pro Glu Gln
	35
Tyr Pro Met Leu Leu	Asn Ala Ile Gln Asn Leu Gly Pro Phe Phe Ala
	50
Gly Ser Gly Glu Ser	Phe Ser Tyr Gln Phe Gly Ala Ala Val Ala Thr
65	70
Pro Arg Gly Met Glu	Thr Ile Pro Leu Thr Ala Asp Tyr Glu Ile Leu
	85
Ile Asp Arg Leu Val	Lys Met Ala Ser Tyr Val Ala Asp Thr Glu Asn
	100
Thr Pro Leu Pro Ala	Trp Lys Ala Met Arg Ser Ala Leu Glu Leu Ile
	115
Gly Asn Thr Pro Glu	Ala Val Asn Leu Ile Ile Ser Val Gly Glu Thr
	130
Gly Glu Gln Gln Glu	Asn Ala Pro Ser Ser Ile Val Lys Thr Leu Asn
145	150
Glu Lys Asn Cys Arg	Leu Leu Gly Trp Gln Leu Tyr Ala Ser Asn Asp
	165
Asp Lys Tyr Asn Asn	Tyr Val Leu Gln Leu Ser Asn Met Ile Glu His
	180
Tyr Ala Glu Tyr Arg	Thr Lys Asn Lys Arg Asn Met Ile Leu Tyr Ala
	195
Asp Gln Phe Cys Arg	Ser Asn Leu Leu Arg Glu Ala Gly Pro Asn Phe
	210
Leu Met Leu Asp Tyr	Pro Tyr Ala Ser Met Thr Gln Gly Gly Phe Leu
225	230
Phe Pro Glu Lys Gly	Glu Thr Leu Pro Met Glu Leu Phe Ala Gly Ala
	245
Val Asp Ser Ile Val	Thr Gln Ile Lys Ala Asp His Gln Leu Leu Ser
	250
	255

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<210> 10183
<211> 179
<212> PRT
<213> B.fragilis
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Asn	Arg	Lys	Asp	Met	Ser	Ile	Thr	Pro	Lys	Asn	Lys	Ser	Ser	Lys	Thr
1				5					10					15	
Val	Ser	Glu	Arg	Glu	Arg	Phe	Ile	Gly	Phe	Val	Tyr	Val	Leu	Thr	Leu
			20					25					30		
Leu	Ile	Val	Ile	Thr	Gly	Ala	Cys	Gly	Phe	Ile	Leu	Phe	Lys	Tyr	Ala
		35					40					45			
Gly	Thr	Arg	His	Ile	Phe	Ser	Asn	Lys	Ile	Met	Val	Ile	Lys	Lys	Met
	50					55					60				
Glu	Arg	Gln	Lys	Glu	Phe	Gln	Asn	Ile	Gln	Ser	Val	Gln	Ile	Val	Ser
65					70					75				80	
Ala	Asp	Thr	Leu	Phe	Ser	Arg	Ile	Glu	Gln	Phe	Glu	Pro	Gly	Val	Asn
				85					90					95	
Ala	Ser	Tyr	Glu	Glu	Asn	Asp	Ile	Lys	Phe	Leu	Ile	Asn	Asp	Leu	Ala
			100					105					110		
Lys	Gln	Trp	Glu	Lys	Asn	Ser	Phe	Asp	Lys	Arg	Asn	Lys	Met	Phe	Trp
		115					120					125			
His	Leu	Ala	Ser	Val	Tyr	Glu	Met	Trp	Phe	Ala	Asp	Lys	Lys	Glu	Leu
	130					135					140				
Trp	Ser	Lys	Gln	Asp	Asn	Ile	Ile	Lys	Phe	Lys	Lys	Asn	Leu	Glu	Glu

145 150 155 160
 Cys Glu Val Gly Leu Gln Lys Lys Glu Gly Glu Leu Lys Asn Lys Gly
 165 170 175

Gly Lys Pro

<210> 10184
 <211> 106
 <212> PRT
 <213> B.fragilis

<400> 10184

Tyr Gly Asp Cys Ala Asp Pro Ser Ser Pro Val Val Glu Asp Met Gly
 1 5 10 15
 Ser Asn Asp Arg Leu Asn Gln Val Val Leu Gln Lys Val Ile Ser Thr
 20 25 30
 Arg Lys Met Glu Leu Ile Glu Glu Leu Gln Ile Met Asp Ser Lys Asp
 35 40 45
 Val Leu Leu Tyr Lys Lys Leu Ala Ser Gln Ile Asn Val Phe Leu Asp
 50 55 60
 Thr Lys Glu Ala Ile Arg Lys Ala Val Ile Glu Glu Ser Leu Val Arg
 65 70 75 80
 Lys Asp Leu Met Arg Cys Ile Gln Asp Asn Lys Gln Ala Thr Arg Lys
 85 90 95
 Leu Thr Leu Gly Asn Ile Ile Val Glu Lys
 100 105

<210> 10185
 <211> 318
 <212> PRT
 <213> B.fragilis

<400> 10185

Arg Asn Arg Leu Ala Leu Pro Pro Arg Val Lys Thr Glu Arg Arg Pro
 1 5 10 15
 Glu Ser Thr Gly Val Tyr Ala Leu Lys Ile Trp Leu Asn Gly Gly Ser
 20 25 30
 Val Phe Leu Ala Gln Pro Val Ser Val Lys Ala Gly Lys Gln Tyr Thr
 35 40 45
 Leu Ser Phe Trp Asn Lys Gly Ser Val Gly Asn Arg Glu Ile Val Val
 50 55 60
 Thr Leu Phe Trp Tyr Asp Asn Gly Ser Ile Lys Ser Arg Glu Lys Ile
 65 70 75 80
 Leu Ser Ile Arg Thr Gly Lys Asp Glu Trp Arg Arg Val Glu Ser Thr
 85 90 95
 Val Thr Ile Pro Glu Asn Ile His Ser Met Gly Met Gly Ile Arg Thr
 100 105 110
 Gln Ser Tyr Gln Gly Tyr Met Leu Ile Asp Asp Met Ser Leu Val Leu
 115 120 125
 Lys Glu Ser Gly Pro Asp Ile Ser Ala Val Pro Glu Ala Pro Asp Asn
 130 135 140
 Leu Arg Met Lys Ala Tyr Gln Asn Glu Met Glu Ile Cys Trp Asn Lys
 145 150 155 160
 Val Ser Asp Glu Thr Ile Lys Trp Glu Val Val Phe Asp Asp His Val
 165 170 175
 Glu Thr Ile Thr Phe Gly Asn Ser Tyr Val Lys Thr Lys Leu Ile Pro
 180 185 190
 Gly Ser Thr His His Ile Lys Val Arg Ala Gly Lys Gly Lys Glu Phe
 195 200 205

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<210> 10186
<211> 64
<212> PRT
<213> B.fragilis
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<210> 10187
<211> 624
<212> PRT
<213> B.fragilis
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<400>	10187															
Gly	Pro	Ile	Phe	Leu	Ser	Gly	Met	Asn	Ile	Gln	Asp	Ala	Glu	Arg	Ser	
1				5					10					15		
Leu	Arg	Arg	Glu	Phe	Ser	Lys	Ile	Tyr	Ala	Ala	Ile	Pro	Gln	Lys	Thr	
			20					25					30			
Val	His	Ile	Glu	Leu	Ser	Leu	Gly	Arg	Ile	Arg	Thr	Ile	Met	Ile	Asn	
		35					40					45				
Val	Met	Gly	Glu	Val	Lys	Val	Pro	Gly	Ile	Tyr	Arg	Leu	Ser	Ala	Phe	
	50					55					60					
Ala	Ser	Val	Phe	His	Ala	Leu	Tyr	Arg	Ala	Gly	Gly	Ile	Ser	Asp	Ile	
65					70					75					80	
Gly	Ser	Leu	Arg	Asp	Ile	Arg	Val	Val	Arg	Asp	Gly	Lys	Glu	Ile	Val	
				85					90					95		
Arg	Val	Asp	Val	Tyr	Asp	Tyr	Ile	Met	Lys	Gly	Lys	Leu	Thr	Asp	Asn	
			100					105					110			
Ile	Arg	Leu	Ser	Glu	Gly	Asp	Val	Ile	Leu	Val	Pro	Pro	Tyr	Gln	Asn	
		115					120					125				
Leu	Val	Ser	Ile	Ser	Gly	Lys	Val	Lys	Arg	Pro	Met	Lys	Tyr	Glu	Met	
	130					135					140					
Lys	Ser	Gly	Glu	Thr	Val	Ala	Thr	Leu	Leu	Ser	Tyr	Ala	Gly	Gly	Phe	
145					150						155				160	
Thr	Gly	Asp	Ala	Tyr	Arg	Ser	Ala	Ile	Arg	Leu	Phe	Arg	Met	Gly	Gly	
				165					170					175		
Lys	Ala	Lys	Gln	Val	Tyr	Asn	Val	Ala	Gln	Asp	Asp	Tyr	Gln	Ser	Tyr	

	180		185		190										
Leu	Leu	Ala	Asp	Gly	Asp	Lys	Leu	Ser	Val	Glu	Ala	Val	Leu	Glu	Arg
	195						200						205		
Phe	Ser	Asn	Lys	Val	Glu	Ile	Arg	Gly	Ala	Val	Tyr	Arg	Ala	Gly	Ile
	210						215						220		
Tyr	Gln	Leu	Asp	Asp	Ser	Val	Thr	Gly	Thr	Val	Arg	Gln	Leu	Ile	Ser
225						230					235				240
Lys	Ala	Glu	Gly	Leu	Arg	Gly	Asp	Ala	Phe	Leu	Asn	Arg	Ala	Leu	Leu
				245					250						255
Arg	Arg	Gln	Gln	Glu	Asp	Leu	Thr	His	Glu	Met	Ile	Pro	Val	Asp	Leu
				260					265						270
Lys	Lys	Met	Met	Asp	Asp	Thr	Ser	Ala	Asp	Leu	Cys	Leu	Gln	Lys	Asn
		275						280							285
Asp	Val	Leu	Tyr	Ile	Pro	Ser	Val	Lys	Asp	Ile	Glu	Lys	Glu	Gly	Thr
	290						295						300		
Leu	Ser	Ile	Tyr	Gly	Asp	Val	Arg	Val	Pro	Gly	Glu	Phe	Pro	Tyr	Val
305					310						315				320
Lys	Asn	Thr	Thr	Ile	Gln	Asp	Leu	Ile	Val	Lys	Ala	Gly	Gly	Leu	Pro
				325							330				335
Glu	Ser	Ala	Ser	Met	Val	Arg	Ile	Asp	Val	Ser	Arg	Arg	Ile	Lys	Asp
				340					345						350
Pro	Gly	Ser	Ile	Leu	Ser	Ser	Asn	Val	Ile	Gly	Lys	Ser	Phe	Thr	Val
		355						360							365
Glu	Leu	Ala	Asn	Gly	Leu	Leu	Ile	Gly	Glu	Asp	Lys	Gly	Phe	Glu	Leu
	370						375								380
Glu	Pro	Tyr	Asp	Ile	Val	Phe	Val	Arg	Arg	Ser	Pro	Gly	Tyr	Arg	Lys
385					390						395				400
Gln	Ala	Asn	Val	Thr	Val	Glu	Gly	Glu	Val	Val	Phe	Thr	Gly	Asn	Tyr
				405							410				415
Ala	Leu	Thr	Lys	Ser	Asn	Glu	Arg	Leu	Ser	Ser	Leu	Ile	Ala	Arg	Ala
				420					425						430
Gly	Gly	Leu	Ser	Lys	Glu	Ala	Tyr	Val	Arg	Gly	Ala	Arg	Leu	Ile	Arg
		435						440							445
Arg	Met	Thr	Ala	Asp	Glu	Ile	Arg	Arg	Lys	Gln	Asp	Val	Val	Arg	Leu
	450					455						460			
Leu	Val	Lys	Gly	Ser	Glu	Glu	Asn	Ser	Ile	Ser	Pro	Val	Ala	Leu	Glu
465						470					475				480
Thr	Gly	Ser	Thr	Tyr	Pro	Val	Gly	Ile	Glu	Leu	Glu	Lys	Ala	Leu	Ile
				485							490				495
Asn	Pro	Gly	Ser	Asp	Glu	Asp	Met	Val	Leu	Arg	Glu	Gly	Asp	Val	Leu
			500						505						510
Phe	Ile	Pro	Lys	Tyr	Val	Ser	Thr	Val	Thr	Ile	Ser	Gly	Ala	Val	Met
		515						520							525
Tyr	Pro	Asn	Thr	Ile	Leu	Tyr	Gln	Lys	Gly	Ser	Asn	Leu	Asp	Tyr	Tyr
	530						535								540
Ile	Glu	Gln	Ala	Gly	Gly	Phe	Gly	Asn	Arg	Ala	Leu	Lys	Arg	His	Ile
545						550					555				560
Tyr	Val	Val	Tyr	Met	Asn	Gly	Met	Val	Ser	Arg	Leu	Arg	Lys	Ser	Ala
				565						570					575
Val	Cys	Ala	Ile	Glu	Pro	Gly	Cys	Glu	Ile	Ile	Val	Pro	Ser	Lys	Glu
				580					585						590
Asn	Arg	Lys	Lys	Thr	Val	Pro	Arg	Asp	Val	Ala	Gly	Met	Asn	Thr	Ser
		595						600							605
Ile	Ala	Ser	Ile	Ala	Ala	Met	Val	Ala	Ala	Met	Val	Gly	Met	Ile	Lys
	610						615								620

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<211> 132

<212> PRT

<213> B.fragilis

<400> 10188

Lys Lys Cys Val Ser Arg Lys Ser Cys Tyr Gly Glu Glu Val Ser Asn
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 Phe Cys Ser Leu Met Lys Ser Glu Ile Phe Val Arg Phe Val Ser Cys
 20 25 30
 Ile Ala Lys Lys Val Ser Cys Leu Lys Asp Met Ile Leu Lys Lys Thr
 35 40 45
 Asn Asp Lys Gly Ala Leu Leu Phe Ala Leu Phe Ile Leu Leu Ala Gly
 50 55 60
 Gly Ser Arg Ala Arg Gln His Met Lys Asp Asp His Val Ile Arg Gly
 65 70 75 80
 Lys Gln Val Ala Val Phe Gly Arg Asn Ile Phe Thr Ala Arg Asn Leu
 85 90 95
 Ser Phe Glu Pro Ser Leu Asp Ile Pro Thr Pro Glu Lys Tyr Val Ile
 100 105 110
 Arg Ser Gly Asp Glu Leu Ile Ile Asp Val Trp Gly Ala Ser Glu Ile
 115 120 125
 Gln Ser Gly Lys
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Tyr Thr Glu Pro Arg Cys Glu Asp Ala Val Ser Ala Phe Leu Tyr Tyr
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 Arg Lys Gly Tyr Asp Met Gly Ala Asp Phe Tyr Gln Val Val Ile Trp
 20 25 30
 Ser Phe Ile Val Leu Ala Ala Ser Glu Ala Ile Tyr Gly Leu Arg Gln
 35 40 45
 Leu Tyr Gly Phe Thr Ser Ser His His Ser Leu Tyr Ser Leu Thr Gly
 50 55 60
 Ser Phe Phe Asn Pro Gly Pro Tyr Ser Gly Tyr Leu Ala Met Ile Phe
 65 70 75 80
 Pro Leu Cys Leu Asp Gln Trp Leu Arg Leu Arg Lys Arg Glu Asn Lys
 85 90 95
 Asn Trp Met Glu Trp Thr Gly Tyr Tyr Gly Ala Val Ala Val Leu Phe
 100 105 110
 Leu Ile Leu Cys Val Leu Pro Ala Gly Met Ser Arg Ser Ala Trp Val
 115 120 125
 Ala Ala Leu Ile Ser Gly Ile Trp Val Tyr Gly Ala His Lys Ser Trp
 130 135 140
 Pro Val Arg Leu Lys Arg Val Trp Met Arg Lys Lys Thr Lys Val Leu
 145 150 155 160
 Ala Val Thr Ser Val Leu Cys Ile Val Val Leu Val Gly Gly Val Cys
 165 170 175
 Leu Phe Asn Leu Lys Lys Asp Ser Ala Ser Gly Arg Leu Phe Met Trp
 180 185 190
 Lys Ile Ser Ser Arg Ala Ile Ala Glu Lys Pro Phe Thr Gly Tyr Gly
 195 200 205
 Gln Gly Asn Phe Ala Leu Ala Tyr Gly Thr Ser Gln Glu Ala Tyr Phe
 210 215 220
 Ala Glu Arg Ser Tyr Ser Pro Gln Glu Glu Leu Val Ala Gly Ser Pro
 225 230 235 240
 Glu Tyr Ala Phe Asn Glu Tyr Leu Gln Ile Ala Leu Glu Trp Gly Ile

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<210> 10190
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Asp 1	Pro	Val	Leu	Leu	Cys	Gly	Glu	Pro	Lys	Thr	Ile	Thr	Met	Lys	Lys
Ile	Tyr	Ser	Ile	Leu	Leu	Ala	Ser	Ala	Leu	Thr	Leu	Ser	Ser	Cys	Ala
Asp	Phe	Leu	Asp	Val	Asp	Ser	Gln	Gly	Lys	Leu	Thr	Glu	Asp	Val	Phe
Phe	Ser	Glu	Glu	Glu	Gly	Ala	Leu	Met	Ser	Ile	Asn	Ala	Ile	Tyr	Thr
Gln	Leu	Arg	Ala	Trp	Asp	Ile	Ile	Gly	Phe	Ser	Trp	Phe	Ala	Ile	Thr
Glu	Leu	Pro	Gly	Asp	Asn	Ser	Asp	Thr	Gly	Ser	Glu	Leu	Ala	Asp	Gly
Ser	Val	Ala	Arg	Leu	Asn	Gln	Phe	Asn	Asp	Phe	Thr	Tyr	Asp	Ala	Ser
Thr	Ser	Glu	Ile	Asn	Gly	Trp	Trp	Glu	Gly	Asn	Tyr	Lys	Ala	Ile	Ala
Ser	Cys	Asn	Val	Ala	Leu	Asp	Asn	Leu	Gly	Ala	Val	Lys	Asn	Glu	Glu
Leu	Arg	Val	Lys	Cys	Val	Ala	Gln	Ala	Arg	Phe	Phe	Arg	Gly	Phe	Phe
Tyr	Phe	Asn	Leu	Val	Arg	Ala	Phe	Gly	Gly	Val	Pro	Leu	Val	Thr	Lys
Val	Leu	Gln	Pro	Gly	Glu	Tyr	Asn	Gln	Pro	Arg	Ala	Thr	Glu	Glu	Ala
Val	Tyr	Gln	Gln	Ile	Ile	Glu	Asp	Leu	Thr	Tyr	Ala	Ala	Glu	His	Leu
Pro	Thr	Arg	Gln	Glu	Trp	Gly	Ala	Lys	Glu	Ser	Gly	Arg	Ala	Thr	Lys
Gly	Thr	Ala	Glu	Gly	Leu	Ala	Lys	Val	Tyr	Leu	Phe	Arg	Gln	Asp	Asp
Tyr	Ala	Asn	Val	Lys	Lys	Tyr	Thr	Gly	Gln	Val	Ile	Ala	Arg	Gly	Glu
Tyr	Ser	Leu	His	Arg	Asp	Tyr	Arg	Asp	Leu	Phe	Asn	Pro	Asn	Ser	Tyr
Tyr	Ser	Asp	Glu	Val	Met	Leu	Ala	Asp	Gln	Tyr	Leu	Trp	Gly	Glu	Ser
Thr	Glu	Arg	Asn	Leu	Glu	Ser	Glu	Tyr	Val	Lys	Trp	Gln	Gly	Ile	Arg
Gly	Glu	Met	Gly	Trp	Gly	Met	Phe	Ser	Pro	Ser	Glu	Ala	Leu	Asp	Gln
Ala	Tyr	Glu	Ala	Gly	Asp	Pro	Arg	Arg	Thr	Ala	Thr	Ile	Phe	Tyr	Asp
Gly	Glu	Thr	Leu	Glu	Gly	Lys	Gly	Glu	Ile	His	Phe	Lys	Lys	Glu	Val

				340					345					350	
Pro	Pro	Arg	Ala	Asn	Lys	Lys	Thr	Ile	Trp	Pro	Thr	Gly	Tyr	Trp	Asn
		355					360					365			
Glu	Asn	Ser	Phe	Ala	Lys	Gln	Asn	Cys	His	Leu	Ile	Phe	Leu	Arg	Tyr
	370					375					380				
Ala	Asp	Val	Leu	Leu	Met	Tyr	Ala	Glu	Ala	Cys	Asn	Glu	Leu	Gly	Glu
385					390					395					400
Ser	Arg	Glu	Ala	Leu	Asp	Lys	Leu	Glu	Met	Val	Arg	Ala	Arg	Ala	Arg
			405						410					415	
Arg	Thr	Val	His	Pro	Ala	Asp	Met	Thr	Val	Gly	Leu	Pro	Glu	Ile	Thr
			420					425					430		
Glu	Thr	Gly	Lys	Glu	Lys	Leu	Arg	Glu	Ile	Ile	Trp	Asn	Glu	Arg	Arg
		435					440					445			
Ile	Glu	Leu	Ala	Leu	Glu	Gly	His	Arg	Phe	Phe	Asp	Leu	Ile	Arg	Ala
	450					455					460				
Asp	Lys	Val	Val	Pro	Gly	Tyr	Ala	Glu	Lys	Met	Met	Lys	Ala	His	Gly
465					470					475					480
Lys	Thr	Asn	Phe	Ser	Ile	Ala	Lys	His	Ala	Thr	Phe	Phe	Ile	Pro	Gln
				485					490					495	
Lys	Gln	Val	Asp	Ile	Ser	Gln	Gly	Val	Leu	Lys	Asn				
			500					505							

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<210> 10191
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<212> PRT
<213> B.fragilis
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<400> 10191

Val 1	Thr	Phe	Thr	Ser 5	His	Phe	Asn	Glu	Lys 10	Cys	Met	Lys	Lys	Phe 15	Leu
Asn	Arg	Arg	Asn 20	Gly	Val	Leu	Leu	Ala 25	Ala	Val	Leu	Val	Ala 30	Val	Ala
Phe	Phe	Ser 35	Phe	Lys	Ser	Gly	Asp 40	Asp	Arg	Asn	Phe	Gln 45	Ile	Ala	Lys
Asn	Leu 50	Asp	Thr	Phe	Asn 55	Ser	Ile	Val	Lys	Glu 60	Leu	Asp	Met	Phe	Tyr
Val 65	Asp	Thr	Leu	Asp 70	Pro	Asn	Lys	Thr	Val	Arg 75	Glu	Gly	Ile	Asp	Tyr 80
Met	Leu	Ser	Ser 85	Leu	Asp	Pro	Tyr	Thr	Glu 90	Tyr	Tyr	Pro	Glu 95	Asp	Asp
Gln	Ala	Glu	Leu 100	Gln	Gln	Met	Leu	Asn 105	Ala	Ser	Phe	Gly 110	Gly	Ile	Gly
Ser	Leu	Ile 115	Thr	Tyr	Asn 120	Gln	Lys	Leu	Lys	Arg	Ser	Met 125	Ile	Ala	Glu
Pro	Phe 130	Glu	Gly	Thr	Pro 135	Ala	Ala	Lys	Val	Gly	Leu	Lys 140	Ala	Gly	Asp
Ile 145	Leu	Met	Glu	Ile	Asp 150	Gly	Lys	Asp	Leu	Ala 155	Gly	Lys	Asn 160	Asn	Gln 160
Glu	Val	Ser	Gln 165	Met	Leu	Arg	Gly	Ala 170	Val	Gly	Thr	Ser 175	Phe	Lys	Leu 175
Lys	Val	Glu	Arg 180	Pro	Asp	Glu	Lys	Gly 185	Gly	Thr	Arg	Pro 190	Leu	Glu	Phe
Asp	Ile 195	Val	Arg	Gln	Thr	Ile	Gln 200	Thr	Pro	Met	Ile 205	Pro	Tyr	Asp	Thr
Ile	Phe 210	Asn	Lys	Asn	Val	Gly 215	Tyr	Ile	Asn 220	Leu	Ser	Thr	Phe	Ser	Gly
Thr 225	Pro	Ser	Lys	Asp 230	Phe	Lys	Lys	Thr	Phe 235	Leu	Lys	Leu	Lys	Lys	Glu 240
Gly	Ile	Thr	Ser	Leu	Val	Ile	Asp	Leu	Arg	Gly	Asn	Gly	Gly	Gly	Arg

245 250 255
 Leu Glu Glu Ala Val Glu Ile Ala Asn Phe Phe Leu Pro Arg Gly Lys
 260 265 270
 Val Ile Val Thr Thr Lys Gly Lys Thr Lys Gln Ala Ser Asn Thr Tyr
 275 280 285
 Lys Thr Leu Arg Glu Pro Leu Asp Leu Asp Ile Pro Ile Thr Val Leu
 290 295 300
 Val Asn Gly Ala Thr Ala Ser Ala Ser Glu Ile Leu Ser Gly Ala Phe
 305 310 315 320
 Gln Asp Phe Asp Arg Ala Val Ile Val Gly Ser Arg Thr Phe Gly Lys
 325 330 335
 Gly Leu Val Gln Thr Thr Arg Pro Leu Pro Tyr Gly Gly Val Met Lys
 340 345 350
 Leu Thr Thr Ser Lys Tyr Tyr Ile Pro Ser Gly Arg Cys Val Gln Ala
 355 360 365
 Ile Asp Tyr Lys His Arg Asn Glu Asp Gly Ser Val Gly Thr Ile Pro
 370 375 380
 Asp Ser Leu Thr Thr Val Phe His Thr Ala Ala Gly Arg Glu Val Arg
 385 390 395 400
 Asp Gly Gly Gly Val Met Pro Asp Ile Glu Val Lys Gln Glu Lys Leu
 405 410 415
 Pro Asn Ile Leu Phe Tyr Leu Val Arg Asp Asn Leu Ile Phe Asp Tyr
 420 425 430
 Ala Thr Gln Tyr Cys Leu Lys His Pro Ser Ile Pro Ser Pro Gln Glu
 435 440 445
 Phe Lys Val Thr Asp Ala Asp Tyr Asn Asp Phe Lys Ala Met Val Lys
 450 455 460
 Lys Ala Asp Phe Lys Tyr Asp Gln Gln Ser Glu Lys Ile Met Lys Thr
 465 470 475 480
 Leu Lys Glu Ala Ala Lys Phe Glu Gly Tyr Leu Asp Glu Ala Ser Glu
 485 490 495
 Glu Ile Lys Ala Leu Glu Lys Lys Leu Thr His Asn Leu Asp Arg Asp
 500 505 510
 Leu Asp Tyr Phe Ser Lys Asp Ile Arg Ser Met Ile Ala Asp Glu Ile
 515 520 525
 Ile Lys Arg Tyr Tyr Tyr Thr Arg Gly Gly Ile Ile Gln Gln Leu Lys
 530 535 540
 Asp Asp Asp Gly Leu Gln Ala Ala Leu Lys Ile Leu Ala Asp Pro Val
 545 550 555 560
 Lys Tyr Lys Glu Thr Leu Ser Ala Pro Val Lys Lys
 565 570

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<213> B.fragilis

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Tyr Arg Ile Thr Met Lys Gln Phe Val Leu Phe Phe Ile Ser Leu Phe
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 Leu Leu Gly Val Gly Ala Arg Ser Gln Glu Met Tyr Gln Lys Lys Val
 20 25 30
 Phe Ile Ser Ser Arg Gly Asp Ser Leu Asn Tyr Arg Leu Leu Arg Pro
 35 40 45
 Glu Val Glu Lys Thr Gly Leu Arg Leu His His Gly Ala Gly Arg Ile
 50 55 60
 Gln Arg Trp Met Arg Phe Gln
 65 70

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Leu	Val	Gln	Thr	Gly	Ala	Val	Gly	Ser	Asn	Ala	Gly	Lys	Arg	Val	Val
1				5					10					15	
Gln	Ala	Glu	Val	Gly	Ala	Val	Val	Pro	Pro	Val	Val	Tyr	Tyr	Pro	Cys
		20						25					30		
Gln	Ser	Phe	Asp	Gly	Lys	Val	Ala	Glu	His	Gly	Glu	Arg	Tyr	Ser	Pro
		35					40					45			
Leu	Asn	Phe	Lys	Val	Ala	Tyr	Gly	Thr	Ser	His	Gln	Ile	Gly	Phe	Ala
	50					55					60				
Val	Thr	Glu	Lys	Pro	Val	Glu	Ile	Ser	Leu	His	Asp	Val	Asp	Gly	Met
65					70					75					80
Asn	Ala	Pro	Glu	Arg	Cys	Gln	Leu	Phe	Val	His	Arg	Phe	Val	Gly	Asp
				85					90					95	
Asp	Gly	Ile	Arg	His	Val	Ile	Val	Ser	Val	Glu	Val	Pro	Pro	Ile	Arg
			100					105					110		
Glu	Ser	Asp	Thr	Pro	Val	His	Leu	Glu	Gln	Ile	Ala	Val	Ser	Thr	Leu
		115					120					125			
Ile	Ala	Gly	Gln	Gly	Ile	Ile	Leu	Phe	Gln	Val	Arg	His	Leu	Leu	Gln
	130						135					140			
Leu	Phe	Ile	Glu	Thr											
145															

<210> 10194
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<400> 10194

Ile	Asp	Thr	Lys	Thr	Val	Lys	Thr	Met	Lys	His	Phe	Val	Arg	Arg	Met
1				5					10					15	
Gln	Ala	Leu	Ala	Ala	Ser	Leu	Val	Val	Val	Ala	Ala	Gly	Leu	Gln	Ala
		20						25					30		
Gln	Lys	Ala	Pro	Arg	Asp	Met	Asp	Arg	Phe	Ile	Asp	Gln	Leu	Met	Lys
		35					40					45			
Lys	Met	Thr	Leu	Glu	Glu	Lys	Ile	Gly	Gln	Leu	Asn	Leu	Pro	Val	Thr
	50					55					60				
Gly	Glu	Ile	Thr	Thr	Gly	Gln	Ala	Lys	Ser	Ser	Asp	Val	Ala	Lys	Arg
65					70					75					80
Ile	Arg	Asn	Gly	Glu	Val	Gly	Gly	Leu	Phe	Asn	Leu	Lys	Gly	Val	Glu
				85					90					95	
Arg	Ile	Arg	Glu	Val	Gln	Arg	Gln	Ala	Val	Glu	Glu	Ser	Arg	Leu	Gly
			100					105					110		
Ile	Pro	Leu	Leu	Phe	Gly	Met	Asp	Val	Ile	His	Gly	Tyr	Glu	Thr	Ile
		115					120					125			
Phe	Pro	Ile	Pro	Leu	Gly	Leu	Ser	Cys	Thr	Trp	Asp	Met	Lys	Ala	Ile
	130						135				140				
Glu	Glu	Ser	Ala	Arg	Ile	Ala	Ala	Val	Glu	Ala	Ser	Ala	Asp	Gly	Ile
145					150					155					160
Ser	Trp	Thr	Phe	Ser	Pro	Met	Val	Asp	Val	Ser	Arg	Asp	Pro	Arg	Trp
				165					170					175	
Gly	Arg	Val	Ser	Glu	Gly	Asn	Gly	Glu	Asp	Pro	Phe	Leu	Gly	Ala	Ala
			180					185					190		
Ile	Ala	Arg	Ala	Met	Ile	Arg	Gly	Tyr	Gln	Gly	Lys	Asp	Met	Ser	Arg
		195					200						205		

Asn	Asp	Glu	Ile	Met	Ala	Cys	Val	Lys	His	Phe	Ala	Leu	Tyr	Gly	Ala
210						215					220				
Ser	Glu	Ala	Gly	Arg	Asp	Tyr	Asn	Thr	Val	Asp	Met	Ser	Arg	Gln	Arg
225					230					235					240
Met	Phe	Asn	Glu	Tyr	Met	Leu	Pro	Tyr	Gln	Ala	Ala	Val	Glu	Ala	Gly
				245					250					255	
Val	Gly	Ser	Val	Met	Ala	Ser	Phe	Asn	Glu	Val	Asp	Gly	Val	Pro	Ala
			260					265					270		
Thr	Gly	Ser	Lys	Trp	Leu	Met	Thr	Asp	Val	Leu	Arg	Lys	Gln	Trp	Gly
	275						280					285			
Phe	Asp	Gly	Phe	Val	Val	Thr	Asp	Tyr	Thr	Gly	Ile	Asn	Glu	Met	Ile
290						295					300				
Asp	His	Gly	Met	Gly	Asp	Gln	Gln	Thr	Val	Ala	Ala	Leu	Ala	Leu	Asn
305					310					315					320
Ala	Gly	Val	Asp	Met	Asp	Met	Val	Ser	Asp	Ala	Phe	Ser	Gly	Thr	Leu
				325					330					335	
Lys	Lys	Ser	Val	Glu	Glu	Gly	Lys	Val	Ser	Ala	Ala	Ala	Ile	Asp	Ala
			340					345						350	
Ala	Cys	Arg	Arg	Ile	Leu	Glu	Ala	Lys	Tyr	Lys	Leu	Gly	Leu	Phe	Asp
				355				360					365		
Asn	Pro	Tyr	Lys	Tyr	Cys	Asp	Val	Asn	Arg	Pro	Lys	Lys	Gln	Ile	Phe
370						375					380				
Thr	Lys	Glu	His	Arg	Ala	Ile	Ala	Arg	Lys	Thr	Ala	Ser	Glu	Ser	Phe
385					390					395					400
Val	Leu	Leu	Lys	Asn	Glu	Gly	Val	Leu	Pro	Leu	Ser	Lys	Lys	Gly	Thr
				405					410					415	
Ile	Ala	Val	Val	Gly	Pro	Leu	Ala	Asn	Thr	Arg	Ser	Asn	Met	Pro	Gly
			420					425					430		
Thr	Trp	Ser	Val	Ala	Ala	Val	Leu	Asp	Asn	Ala	Pro	Ser	Leu	Val	Glu
			435				440					445			
Gly	Leu	Arg	Glu	Val	Val	Gly	Asp	Arg	Ala	Lys	Val	Val	Thr	Ala	Lys
	450					455					460				
Gly	Ser	Asn	Leu	Ile	Gly	Asp	Ala	Asp	Tyr	Glu	Lys	Arg	Ala	Thr	Met
465					470					475					480
Phe	Gly	Arg	Glu	Leu	His	Arg	Asp	Asn	Arg	Thr	Asp	Arg	Glu	Leu	Leu
				485					490					495	
Asp	Glu	Ala	Leu	Lys	Val	Ala	Ala	Gly	Ala	Asp	Val	Ile	Val	Ala	Ala
			500					505					510		
Leu	Gly	Glu	Ser	Ser	Glu	Met	Ser	Gly	Glu	Ser	Ser	Ser	Arg	Thr	Asn
	515						520					525			
Leu	Glu	Met	Pro	Asp	Val	Gln	Arg	Ala	Leu	Leu	Gln	Glu	Leu	Leu	Lys
	530					535					540				
Thr	Gly	Lys	Pro	Val	Val	Leu	Val	Leu	Phe	Thr	Gly	Arg	Pro	Leu	Val
545					550					555					560
Leu	Thr	Trp	Glu	Glu	Glu	His	Val	Pro	Ala	Ile	Leu	Asn	Val	Trp	Phe
				565					570					575	
Gly	Gly	Ser	Glu	Ala	Ala	Tyr	Ala	Ile	Ser	Asp	Val	Leu	Phe	Gly	Asp
			580					585					590		
Val	Asn	Pro	Ser	Gly	Lys	Leu	Thr	Ala	Thr	Phe	Pro	Gln	Asn	Val	Gly
	595						600					605			
Gln	Ile	Pro	Leu	Phe	Tyr	Asn	His	Lys	Asn	Thr	Gly	Arg	Pro	Leu	Gln
	610					615					620				
Glu	Gly	Arg	Trp	Phe	Glu	Lys	Phe	Arg	Ser	Asn	Tyr	Leu	Asp	Val	Ser
625					630					635					640
Asn	Glu	Pro	Leu	Tyr	Pro	Phe	Gly	Tyr	Gly	Leu	Ser	Tyr	Thr	Thr	Phe
				645					650					655	
Ala	Tyr	Ser	Asp	Ile	His	Leu	Ser	Ser	Thr	Glu	Met	Ser	Ala	Asp	Gly
			660						665					670	
Lys	Leu	Thr	Ala	Thr	Val	Thr	Val	Thr	Asn	Thr	Gly	Ser	Arg	Asp	Gly

6034 6034 6034

675 680 685
 Ala Glu Val Val Gln Leu Tyr Ile Arg Asp Leu Val Gly Ser Val Thr
 690 695 700
 Arg Pro Val Lys Glu Leu Lys Gly Phe Glu Lys Ile Phe Leu Lys Ala
 705 710 715 720
 Gly Glu Ser Arg Lys Val Ser Phe Ser Ile Thr Pro Glu Leu Leu Lys
 725 730 735
 Phe Tyr Asn Tyr Asp Leu Gln Phe Val Cys Glu Pro Gly Asp Phe Asp
 740 745 750
 Val Met Ile Gly Gly Asn Ser Arg Asp Val Lys Lys Ala Arg Phe Leu
 755 760 765
 Leu Lys Gly Glu
 770

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 Phe Ser Cys Leu Gly Ser Pro Val Pro Phe Ser Pro Ile Val Arg Asn
 20 25 30
 Tyr Ser Val Leu Asp Tyr Asn Ala Gly Asn Glu Asn Trp Ala Val Ala
 35 40 45
 Gln Asp Glu Arg Gly Val Met Tyr Phe Gly Asn Asn Ser Gly Leu Leu
 50 55 60
 Arg Tyr Asp Gly Ser Arg Trp Lys Leu Phe Pro Leu Pro Thr Ser Gly
 65 70 75 80
 Ile Val Arg Ala Val Tyr Val Ala Ser Asp Arg Arg Ile Tyr Val Gly
 85 90 95
 Ser Phe Glu Glu Phe Gly Tyr Phe Glu Gln Asn Asp Leu Asn Leu Leu
 100 105 110
 Glu Tyr His Ser Leu Lys Glu Gln Val Lys Gly Phe Asp Phe His Asn
 115 120 125
 Asp Glu Ile Trp Thr Ile Val Glu Gln Gly Gly Asn Ile Ile Phe Gln
 130 135 140
 Ser Phe Gly Ser Tyr Phe Ile Tyr Asp Gly Lys Gly Thr Lys Gly Val
 145 150 155 160
 Arg Cys Pro Glu Leu Pro Leu Asn Leu Phe Arg Ile Gly Asp Thr Leu
 165 170 175
 Tyr Ser Gln Leu Ile Asn Gly Gly Val Cys Thr Phe Ala Gly Asp Lys
 180 185 190
 Phe Ile Pro Leu Ile Ser Arg Gln Glu Leu Gly Asp Ser Asp Val Leu
 195 200 205
 Ala Gly Leu Pro Tyr Pro Gly Gly Met Leu Leu Leu Thr Arg Asn Ser
 210 215 220
 Gly Gly Tyr Ile His Thr Ser Ser Gly Ile Arg Ser Trp His Thr Asp
 225 230 235 240
 Ser Asp Glu Glu Leu Lys Arg His Thr Val Asn Arg Ala Val Met Thr
 245 250 255
 Lys Asp Ser Cys Tyr Val Ile Gly Thr Ile Ser Asn Gly Leu Tyr Ala
 260 265 270
 Phe Ser Lys Glu Gly His Leu Leu Trp Lys Glu Asn Ala Asp Asn Gln
 275 280 285
 Leu Glu Asn Asn Thr Val Leu Gly Leu Tyr Cys Asp Met Asp Asn Asn
 290 295 300
 Ile Trp Thr Ala Leu Asp Asn Gly Ile Ala Tyr Val Arg Asn Asn Ser

10195
 948
 PRT
 B.fragilis

305					310					315					320
Leu	Ile	Tyr	His	Phe	Glu	Pro	Val	Arg	Arg	Lys	Val	Gly	Met	Val	Tyr
				325					330					335	
Asp	Val	Leu	Val	Arg	Asp	Lys	Asp	Ala	Tyr	Ile	Ala	Ser	Asn	Gln	Gly
			340					345					350		
Leu	Tyr	Arg	Leu	Glu	Asp	Thr	Arg	Leu	Glu	Leu	Val	Pro	Gly	Leu	Glu
		355					360					365			
Glu	Gln	Ala	Trp	Thr	Ile	Gly	Glu	Trp	Gly	Gly	Gln	Val	Leu	Cys	Gly
		370				375					380				
His	Asn	Lys	Gly	Thr	Phe	Gln	Ile	Lys	Gly	Met	Gln	Ala	Arg	Leu	Leu
385					390					395					400
Ser	Asp	Val	Arg	Gly	Ala	Met	Cys	Met	Arg	Gln	Ala	Gln	Ile	Asn	Gly
				405					410					415	
Glu	Gln	Leu	Leu	Ile	Gln	Gly	Thr	Tyr	Thr	Phe	Leu	Asn	Ile	Tyr	Lys
			420					425					430		
Lys	Ser	Ala	Ala	Gly	Glu	Trp	Tyr	Phe	Ala	Asn	Ser	Val	Gly	Asn	Phe
		435					440					445			
Ser	His	Met	Ala	Lys	Asn	Ile	Glu	Val	Asp	Ala	His	Gly	Asn	Ile	Trp
	450				455					460					
Val	Gln	His	Met	Arg	Lys	Gly	Leu	Tyr	Arg	Leu	Arg	Leu	Asp	Glu	Glu
465					470					475					480
Leu	Lys	Gln	Val	Thr	Asp	Leu	Lys	Gln	Tyr	Asp	Ser	Leu	Ser	Gly	Asn
				485					490					495	
Gln	Gly	Gly	Asn	Cys	Tyr	Leu	Phe	Lys	Val	Asn	Gly	Arg	Val	Ala	Phe
			500					505					510		
Ser	Asp	Gly	Arg	Asn	Phe	Tyr	Thr	Tyr	Asp	Asp	Met	Ala	Asp	Ser	Ile
		515					520					525			
Ile	Pro	Tyr	Lys	Ala	Met	Asn	Glu	Gln	Leu	Ala	Thr	Leu	Arg	Gly	Ile
	530					535					540				
His	Thr	Val	Asp	Val	Met	Lys	Gly	Asp	Leu	Tyr	Trp	Phe	Leu	Ser	Asp
545					550					555					560
Arg	Glu	Ala	Tyr	Leu	Val	Arg	Cys	Thr	Val	Ser	Asp	Phe	Lys	Val	Glu
				565					570					575	
Arg	Arg	Ile	Pro	Phe	Ser	Met	Phe	Gly	Asn	Leu	Pro	Ile	Glu	Gly	Leu
			580					585					590		
Ala	Arg	Ile	Val	Tyr	Asp	Arg	Arg	Asn	Asp	Cys	Ser	Tyr	Leu	Cys	Leu
		595					600					605			
Asn	Asn	Ser	Phe	Ala	Arg	Ile	Ala	Ala	Asp	Ser	Thr	Gly	Leu	Tyr	Lys
	610					615					620				
Ser	Arg	Gln	Lys	Pro	Ser	Leu	Trp	Val	Ser	Gly	Phe	Ser	Ala	Ser	Asp
625					630					635					640
Glu	Gln	Thr	Gly	Glu	Arg	Ile	Gln	Leu	Pro	Val	Ser	Gly	Thr	Asp	Glu
				645					650					655	
Ile	Ala	Ser	Ala	Phe	Asn	Asn	Ile	Ser	Ile	Ser	Leu	Ala	Tyr	Pro	Val

Glu Ile Glu Gln Gln Glu Lys Lys Ile Met Glu Leu Glu Lys Glu Gln
 785 790 795 800
 Leu Glu Ala Asp Leu Arg Phe Lys Ser Lys Glu Leu Ser Gly Val Val
 805 810 815
 Met Thr Asn Ile Ala His Gln Glu Phe Leu Asn Ser Leu Lys Glu Glu
 820 825 830
 Leu Gln Gln Gln Lys Leu Ser Gly Gln Tyr Thr Arg Lys Asn Leu Asp
 835 840 845
 Lys Leu Leu Ser Met Ile Asn Gln Asn Met Val Ser Asp Glu Glu Asn
 850 855 860
 Trp Asn Met Phe Gln Ser Asn Phe Asp Arg Ile His Glu Asn Phe Phe
 865 870 875 880
 Arg Asn Leu Lys Glu Lys Phe Pro Asp Leu Thr Ser Gly Asp Leu Arg
 885 890 895
 Leu Cys Ala Leu Leu Arg Leu Asn Leu Pro Thr Lys Glu Ile Ala Lys
 900 905 910
 Leu Met Asn Ile Ser Val Arg Gly Val Asp Ala Ala Arg Tyr Arg Leu
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 Arg Lys Lys Leu Gly Leu Pro Pro Glu Ser Ser Leu Thr Asp Phe Met
 930 935 940
 Ile Ala Phe Lys
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 Gly Tyr Phe Glu Ile Cys Asn Ile Phe Ala Lys Lys Ile Ser Glu Met
 20 25 30
 Asp Lys Ile Ile Gly Leu Gly Asn Ala Leu Val Asp Val Leu Ala Thr
 35 40 45
 Leu Lys Asp Asp Thr Leu Leu Asp Glu Met Gly Leu Pro Lys Gly Ser
 50 55 60
 Met Gln Leu Ile Asp Asp Ala Lys Leu Gln Gln Ile Asn Glu Arg Phe
 65 70 75 80
 Ser Gln Met Lys Thr His Leu Ala Thr Gly Gly Ala Ala Ala Asn Thr
 85 90 95
 Ile Leu Gly Leu Ala Cys Leu Gly Ala Gly Thr Gly Phe Ile Gly Lys
 100 105 110
 Ile Gly Asn Asp Ala Tyr Gly Asn Phe Phe Arg Ala Asn Leu Gln Arg
 115 120 125
 Asn Gly Ile Glu Asp Lys Leu Leu Val Ser Asp Leu Pro Ser Gly Val
 130 135 140
 Ala Ser Thr Phe Ile Ser Pro Asp Gly Glu Arg Thr Phe Gly Thr Tyr
 145 150 155 160
 Leu Gly Ala Ala Ser Thr Leu Lys Ala Glu Asp Leu Thr Leu Asp Met
 165 170 175
 Phe Lys Gly Tyr Ala Tyr Leu Leu Ile Glu Gly Tyr Leu Val Gln Asp
 180 185 190
 His Asp Met Ile Leu His Ala Ile Glu Leu Ala Lys Glu Ala Gly Leu
 195 200 205
 Gln Val Cys Leu Asp Met Ala Ser Tyr Asn Ile Val Ala Gly Asp Leu
 210 215 220
 Glu Phe Phe Thr Leu Leu Ile Asn Lys Tyr Val Asp Ile Val Phe Ala
 225 230 235 240

Asn	Glu	Glu	Glu	Ala	Lys	Ala	Phe	Thr	Gly	Lys	Glu	Asp	Pro	Lys	Glu
				245					250					255	
Ala	Leu	Glu	Leu	Ile	Ser	Lys	Lys	Cys	Ser	Ile	Ala	Ile	Val	Lys	Val
				260				265					270		
Gly	Gly	Asn	Gly	Ser	Tyr	Ile	Arg	Lys	Gly	Thr	Glu	Glu	Ile	Lys	Val
				275			280					285			
Glu	Ala	Ile	Pro	Val	Lys	Lys	Val	Ile	Asp	Thr	Thr	Gly	Ala	Gly	Asp
				290		295					300				
Tyr	Phe	Ala	Ser	Gly	Phe	Leu	Tyr	Gly	Leu	Thr	Cys	Gly	Tyr	Ser	Leu
305					310					315					320
Glu	Lys	Cys	Ala	Lys	Ile	Gly	Ser	Ile	Leu	Ser	Gly	Asn	Val	Ile	Gln
				325					330					335	
Ile	Val	Gly	Thr	Thr	Ile	Pro	Gly	Glu	Arg	Trp	Asp	Glu	Ile	Lys	Leu
				340				345					350		
Asn	Ile	Asn	Glu	Val	Leu	Ser	Glu								
				355			360								

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<212> PRT
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<400> 10197

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			20					25					30		
Pro	Phe	Asn	Gln	Val	Thr	Leu	Thr	Asp	Gly	Phe	Trp	Lys	Asn	Arg	Met
		35					40					45			
Gln	Thr	Glu	Ile	Asn	Val	Thr	Val	Pro	Phe	Ser	Val	Glu	Gln	Ser	Ala
	50					55					60				
Pro	Ala	Val	Glu	Arg	Phe	Arg	Arg	Cys	Ala	Ala	Phe	Leu	Ala	Gly	Asp
65					70					75					80
Ser	Thr	Ala	Leu	Pro	Glu	Thr	His	Arg	Phe	Ile	Ser	Ser	Asp	Leu	Tyr
				85					90					95	
Lys	Val	Met	Glu	Gly	Val	Ser	Tyr	Ser	Leu	Met	Ile	Gln	Pro	Asn	Lys
			100					105					110		
Glu	Leu	Glu	Glu	Phe	Met	Asp	Arg	Val	Ala	Asp	Leu	Ile	Thr	Ala	Ser
		115					120					125			
Gln	Lys	Asp	Asp	Gly	Tyr	Leu	Tyr	Ile	Ser	His	Ile	Cys	Gly	Asn	Pro
	130					135					140				
Asp	Pro	Arg	Glu	Met	Gly	Glu	Lys	Pro	Tyr	Ser	Trp	Val	Val	His	Ser
145					150					155					160
His	Glu	Leu	Tyr	Asn	Val	Gly	His	Leu	Tyr	Glu	Ala	Ala	Val	Ala	Tyr
				165					170					175	
Tyr	Gln	Ala	Thr	Gly	Lys	Asp	Lys	Leu	Leu	Asn	Val	Ala	Ile	Lys	Ser
			180					185					190		
Ala	Lys	His	Val	Asn	Lys	Val	Phe	Phe	Glu	Gly	Gly	Asp	Pro	Asn	Tyr
		195					200					205			
Asn	Gly	Gly	Lys	Pro	Ile	Asn	Gln	Ala	Pro	Gly	His	Glu	Glu	Ile	Glu
	210					215					220				
Leu	Ala	Leu	Cys	Lys	Leu	Tyr	Arg	Val	Thr	Asn	Asp	Pro	Leu	Tyr	Leu
225					230					235					240
Asp	Met	Ala	Lys	Lys	Phe	Leu	Glu	Ile	Arg	Gly	Val	Thr	Tyr	Arg	Pro
				245					250					255	
Glu	Gly	Glu	Gly	Val	Met	Ala	Pro	Thr	Tyr	Ala	Gln	Gln	His	Ala	Pro
			260						265				270		
Val	Lys	Glu	Gln	Thr	Glu	Ala	Val	Gly	His	Ala	Val	Arg	Ala	Ala	Tyr
		275					280					285			

Leu	Tyr	Thr	Ala	Met	Ala	Gln	Val	Asp	Ala	Leu	Thr	Gly	Leu	Asn	Asp
290						295					300				
Tyr	Thr	Lys	Ala	Leu	Asn	Ser	Ile	Trp	Thr	Asn	Leu	Val	Thr	Thr	Arg
305					310					315					320
Met	His	Ile	Thr	Gly	Gly	Leu	Gly	Ala	Val	Glu	Gly	Met	Glu	Gly	Phe
				325					330					335	
Gly	Ala	Pro	Tyr	Glu	Leu	Pro	Asn	Leu	Thr	Ala	Tyr	Asn	Glu	Thr	Cys
			340					345					350		
Ala	Ala	Val	Ala	Asn	Val	Phe	Phe	Asn	Tyr	Gly	Met	Tyr	Leu	Asp	Ser
		355					360					365			
Gly	Asp	Ala	Lys	Phe	Leu	Asp	Ile	Ala	Glu	Leu	Ser	Leu	Phe	Asn	Asn
	370					375					380				
Ser	Leu	Ala	Gly	Ile	Asn	Leu	His	Gly	Asp	Arg	Phe	Phe	Tyr	Val	Asn
385					390					395					400
Pro	Leu	Glu	Ala	Asp	Gly	Val	Arg	Arg	Phe	Asn	His	Gly	Asn	Gly	Gly
				405					410					415	
Arg	Ala	Lys	Trp	Phe	Gly	Cys	Ala	Cys	Cys	Pro	Pro	Asn	Ile	Ser	Arg
			420					425					430		
Leu	Ile	Leu	Gln	Val	Pro	Gly	Tyr	Met	Tyr	Ala	Tyr	Ser	Lys	Asp	Arg
		435					440					445			
Val	Tyr	Leu	Thr	Leu	Tyr	Gly	Gly	Ser	Gln	Thr	Thr	Ile	Pro	Leu	Glu
	450					455					460				
Gly	Thr	Arg	Val	Lys	Leu	Glu	Gln	Thr	Ser	Ala	Tyr	Pro	Phe	Asp	Gly
465					470					475					480
Lys	Val	Arg	Leu	Thr	Val	Gln	Pro	Glu	Lys	Gly	Ser	Lys	Phe	Ser	Val
				485					490					495	
Cys	Met	Arg	Ile	Pro	Thr	Trp	Ala	Arg	Ser	Asp	Glu	Phe	Val	Pro	Gly
			500					505					510		
Gly	Leu	Tyr	Pro	Tyr	Lys	Gln	Pro	Lys	Gln	Ala	Glu	Val	Glu	Leu	Ser
		515					520					525			
Val	Asn	Gly	Gln	Lys	Thr	Asp	Phe	Lys	Met	Glu	Lys	Gly	Phe	Ala	Val
	530					535					540				
Ile	Lys	Arg	Asp	Trp	Lys	Pro	Gly	Asp	Val	Val	Glu	Leu	Asn	Ile	Pro
545					550					555					560
Met	Pro	Val	Arg	Phe	Val	Asp	Cys	Ile	Pro	Glu	Val	Ser	Glu	Asn	Ile
				565					570					575	
Gly	Lys	Thr	Ala	Val	Thr	Arg	Gly	Pro	Leu	Val	Tyr	Cys	Ala	Glu	Glu
			580					585					590		
Val	Asp	Asn	Ala	Gly	Pro	Val	Gln	Arg	Leu	Tyr	Leu	Gly	Asp	Thr	Asn
		595					600					605			
Glu	Ala	Gln	Ala	Lys	Val	Ala	Asn	Ile	Ser	Ser	Gly	Val	Leu	Gln	Gly
	610					615					620				
Leu	Glu	Arg	Ile	Thr	Leu	Pro	Gly	Met	Glu	Lys	Lys	Val	Gly	Gly	Ile
625					630					635</					

755	760	765
Asp Ala Gly Trp Thr Pro Leu Glu Leu Tyr Val Thr Asp Ser Tyr Gln		
770	775	780
Met Gly Thr Asp Arg Phe Asn Val Val His Pro Ser Gly Ser Leu Glu		
785	790	795
Val Glu Ser Val Arg Ile Leu Ile Glu Pro Gln Lys Gly Lys Ser Ile		
	805	810
Gly Val Ser Glu Ile Arg Phe Glu		815
820		

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<212> PRT

<213> B.fragilis

<400> 10198

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Phe Thr Leu Cys Met Met Leu Leu Leu Ser Met Leu Ser Phe Ala Gln		15
	20	25
Gly Ser Leu Thr Ile Ser Gly Val Val Thr Glu Lys Lys Thr Gly Glu		30
	35	40
Pro Ile Ile Gly Ala Ser Ile Leu Leu Lys Gly Gln Ser Ser Gly Thr		45
	50	55
Ile Thr Asp Phe Asn Gly Asn Tyr Ser Ile Pro Asn Val Pro Ser Gly		60
65	70	75
Ala Thr Leu Val Phe Ser Tyr Ile Gly Met Lys Thr Gln Glu Val Lys		80
	85	90
Val Thr Ala Ser Ser Lys Leu Asp Ile Ser Leu Glu Glu Asp Asn Gln		95
	100	105
Leu Ile Asp Glu Val Val Val Ile Gly Tyr Gly Ile Gln Arg Lys Ser		110
	115	120
Asp Leu Thr Gly Ser Val Gly Ala Val Lys Ser Lys Asp Leu Thr Lys		125
	130	135
Val Ala Thr Pro Asn Val Ala Asn Ala Leu Gln Gly Arg Val Ser Gly		140
145	150	155
Val Tyr Ile Ser Ala Asn Gly Ala Pro Gly Ser Ser Pro Glu Val Arg		160
	165	170
Ile Arg Gly Ile Gly Thr Thr Asn Asn Ser Asn Pro Leu Tyr Val Val		175
	180	185
Asp Gly Met Phe Met Asp Asp Ile Ser Phe Leu Ser Thr His Asp Ile		190
	195	200
Glu Ser Met Glu Val Leu Lys Asp Ala Ser Ala Thr Ala Met Tyr Gly		205
	210	215
Ser Arg Gly Ala Asn Gly Val Ile Ile Val Thr Thr Lys Gln Gly Thr		220
225	230	235
Glu Gly Lys Ala Val Val Asn Phe Thr Ala Ser Glu Gly Phe Gln Phe		240
	245	250
Asn Asn Ser Ser Phe Glu Met Ala Asn Ala Thr Glu Tyr Ala Thr Leu		255
	260	265
Leu Asn Glu Ala Leu Val Asn Thr Gly Gly Lys Pro Lys Phe Asp Asp		270
	275	280
Pro Ala Ser Leu Gly Lys Gly Thr Asn Trp Phe Asp Glu Ile Phe Arg		285
	290	295
Val Ala Ser Val Arg Asp Tyr Gln Leu Ser Val Ser Gly Gly Ser Glu		300
305	310	315
Lys Val Arg Tyr Asn Leu Ser Ala Gly Tyr Tyr Gln Gln Asp Gly Ile		320
	325	330
Ile Thr Gly Asn Thr Tyr Asn Arg Phe Thr Leu Arg Ala Asn Asn Ser		335

	340		345		350
Tyr Lys Ile Ser Lys Arg Leu Thr Leu Gly His Asn Leu Ser Ala Ser					
	355		360		365
Phe Ser His Lys Lys Asn Glu Asn Ser Ala Val Val Lys Ala Ala Tyr					
	370		375		380
Thr Ile Ser Pro Val Lys Arg Pro Tyr Asn Glu Asp Gly Ser Phe Met					
385		390		395	400
Asp Ser Glu Ser Ala Ser Ser Ala Asn Pro Val Ala Thr Leu His Tyr					
	405		410		415
Thr Asn Asn Asp Asp Trp Lys Glu Arg Ile Val Gly Ser Ala Phe Leu					
	420		425		430
Asn Trp Asn Ile Leu Asn Gly Leu Asp Phe Lys Thr Ser Leu Gly Ile					
	435		440		445
Asp Tyr Ile Asn Gly Arg Arg Arg Asn Phe Val Pro Lys Tyr Tyr Val					
	450		455		460
Ser Glu Thr Gln Lys Asn Glu Thr Asn Ser Leu Ser Lys Thr Trp Asp					
465		470		475	480
Arg Asp Phe Thr Trp Leu Trp Glu Asn Leu Leu Thr Tyr Asp Trp Lys					
	485		490		495
Ile Asn Asp Lys Asn Arg Leu Asn Leu Leu Gly Gly Ile Thr Ala Gln					
	500		505		510
Lys Arg Val Tyr Glu Leu Leu Glu Gly Thr Gly Arg Asp Phe Phe Ser					
	515		520		525
Asp Asn Glu Asn Tyr Trp Tyr Leu Asp Gln Ala Ser Ala Gly Ser Lys					
	530		535		540
Ser Val Ala Asn Asn Gly Tyr His Glu Thr Met Met Ser Tyr Leu Phe					
545		550		555	560
Arg Ala Asn Tyr Ala Leu Met Asp Arg Tyr Leu Leu Thr Val Ser Val					
	565		570		575
Arg Ala Asp Gly Ser Ser Lys Phe Gly Pro Asp Asn Arg Trp Gly Tyr					
	580		585		590
Phe Pro Ser Val Ala Ala Gly Trp Arg Val Ser Glu Glu Ala Phe Leu					
	595		600		605
Lys Asp Arg Val Gln Trp Leu Ser Asn Leu Lys Leu Arg Gly Ser Trp					
	610		615		620
Gly Gln Ile Gly Asn Asp Lys Ile Gly Asn Asp Lys Tyr Arg Ala Leu					
625		630		635	640
Ala Asn Ile Ser Pro Ser Tyr Asp Ala Val Phe Gly Gly Val Phe Tyr					
	645		650		655
Pro Gly Gly Thr Ile Thr Ser Leu Ser Asn Arg Ser Val His Trp Glu					
	660		665		670
Arg Ser Glu Gln Met Asp Leu Gly Phe Asp Leu Gly Leu Leu Asn Asn					
	675		680		685
Arg Phe Ser Leu Glu Leu Asp Tyr Tyr Arg Arg Asp Thr Lys Asp Met					
	690		695		700
Leu Val Thr Val Asp Val Pro Ala Ser Val Gly Leu Thr Pro Val Glu					
705		710		715	720
Thr Asn Val Gly Ala Val Arg Asn Ser Gly Val Asp Phe Thr Val Lys					
	725		730		735
Trp Glu Asp Ser Leu Lys Asp Phe Arg Tyr Gly Ile Arg Leu Thr Gly					
	740		745		750
Thr Thr Ile Lys Asn Glu Val Ile Ser Leu Gly Gly Lys Arg Ile Ala					
	755		760		765
Ser Gly Asp Ile Gly Ala Gly Lys Ser Val Gln Met Thr Glu Glu Gly					
	770		775		780
Lys Pro Ile Lys Tyr Phe Tyr Gly Tyr Asn Val Ile Gly Ile Phe Gln					
785		790		795	800
Asn Glu Ala Gln Ile Lys Glu Tyr Asn Glu Arg Ala Ala Ala Ala Thr					
	805		810		815

6041

Gly Asn Ser Gly Gln Gln Tyr Gln Asn Asn Val Gly Pro Gly Asp Leu
 820 825 830
 Ile Tyr Glu Asp Val Asp Gly Asp Gly Tyr Ile Thr Ala Asn Asp Arg
 835 840 845
 Lys Asp Leu Gly Ser Pro Thr Pro Lys Phe Ile Gly Gly Leu Gly Ile
 850 855 860
 Ser Ala Ser Trp Lys Gly Phe Asp Leu Ser Ile Asp Phe Gln Gly Asn
 865 870 875 880
 Phe Gly Asn Lys Ile Phe Asn Ala Lys Gln Val Glu Arg Phe Ser Gly
 885 890 895
 Ser Asp Asn Trp Asp Arg Ser Phe Leu Asp Arg Trp Thr Pro Glu Asn
 900 905 910
 Pro Asn Thr Met Thr Pro Arg Met Thr Leu Glu Gly Asn Asn Tyr Gln
 915 920 925
 Val Ser Ser Arg Tyr Val Glu Ser Gly Ser Tyr Val Lys Leu Gln Thr
 930 935 940
 Val Glu Leu Gly Tyr Thr Phe Pro Lys Ser Trp Met Gln Lys Val Ser
 945 950 955 960
 Val Gln Asn Leu Arg Val Tyr Phe Ser Gly Asn Asn Leu Ala Tyr Phe
 965 970 975
 Thr Gly Tyr Asn Gly Phe Thr Pro Glu Val Leu Gly Gly Ile Asp Arg
 980 985 990
 Gln Ile Tyr Pro Val Thr Ala Thr Cys Arg Phe Gly Leu Asn Val Thr
 995 1000 1005
 Phe

<210> 10199
 <211> 576
 <212> PRT
 <213> B.fragilis

<400> 10199
 Ile Thr Thr Met Lys Gln Leu Phe Leu Leu Leu Leu Ala Leu Gly Ala
 1 5 10 15
 Pro Ala Leu Ala Leu Ala Gln Asp Met Arg Gln Asp Thr Tyr Cys Asn
 20 25 30
 Pro Leu Asn Ile Asp Tyr Thr Tyr Met Ile Tyr Asn Ser Asp Lys Asp
 35 40 45
 Ile Ser Tyr Arg Ser Gly Ala Asp Pro Ala Val Val Arg Phe Arg Gly
 50 55 60
 Glu Tyr Tyr Met Phe Val Thr Arg Ser Asn Gly Tyr Trp His Ser Lys
 65 70 75 80
 Asp Leu Leu Asp Trp Asp Phe Ile Ala Pro Lys Asp Trp Tyr Pro Gln
 85 90 95
 Gly Ser Asn Ala Pro Ala Ala His Asn Tyr Lys Asp Ser Val Leu Tyr
 100 105 110
 Val Thr Gly Asp Pro Ser Gly Ser Met Ser Ile Leu Tyr Ser Asp Asn
 115 120 125
 Pro Lys Ser Gly Glu Trp Lys Ala Thr Pro Ala Ile Leu His Asn Leu
 130 135 140
 Gln Asp Pro Asp Leu Phe Ile Asp Asp Asp Gly Lys Ala Tyr Met Phe
 145 150 155 160
 Trp Gly Ser Ser Asn Val Tyr Pro Ile Arg Gly Met Glu Leu Asp Lys
 165 170 175
 Asn His Arg Phe Leu Pro Lys Gly Glu Val Lys Glu Leu Phe Asn Leu
 180 185 190
 Asp Met Pro Arg His Gly Trp Glu Arg Phe Gly Glu Asn His Ser Asp
 195 200 205

Thr Val Leu Gly Gly Tyr Ile Glu Gly Pro Trp Leu Thr Lys Tyr Asn
 210 215 220
 Gly Lys Tyr Tyr Met Gln Tyr Gly Ala Pro Gly Thr Glu Phe Asn Val
 225 230 235 240
 Tyr Ala Asp Gly Val Tyr Val Ala Asp His Pro Met Gly Pro Tyr Thr
 245 250 255
 Tyr Gln Lys His Asn Pro Val Ser Tyr Lys Pro Gly Gly Tyr Met Asn
 260 265 270
 Gly Ala Gly His Gly Ser Thr Val Gln Gly Pro Gly Gly Glu Tyr Trp
 275 280 285
 His Phe Ala Ser Met Ala Leu Ser Ile Asn Val Asn Trp Glu Arg Arg
 290 295 300
 Leu Cys Met Phe Pro Ala Gly Phe Asp Lys Asp Gly Ile Met Tyr Val
 305 310 315 320
 Asp Thr Arg Phe Gly Asp Tyr Pro Arg Tyr Ala Pro Ala Val Pro Gly
 325 330 335
 Lys Lys Gly Gln Phe Arg Gly Trp Met Leu Leu Ser Tyr Arg Lys Pro
 340 345 350
 Val Thr Ala Ser Thr Ala Lys Gly Glu Phe Gly Pro Asp Ala Leu Thr
 355 360 365
 Asp Glu Arg Thr Lys Ser Phe Trp Leu Ala Glu Ala Asn Asp Glu Arg
 370 375 380
 Gln Trp Val Leu Ile Asp Leu Glu Lys Pro Ala Arg Val Cys Ala Val
 385 390 395 400
 Gln Val Asn Tyr His Asp Tyr Arg Ser Asn Leu Tyr Gly Arg Ile Pro
 405 410 415
 Gly Leu Arg His Arg Tyr Val Ile Glu Gly Ser Ser Asp Gly Glu Thr
 420 425 430
 Trp Asn Ile Leu Val Asp Arg Arg Ser Ser Tyr Lys Asp Thr Pro Asn
 435 440 445
 Asp Tyr Val Glu Leu Glu Val Pro Thr Thr Ala Arg Tyr Ile Arg Tyr
 450 455 460
 Lys Asn Ile Asp Val Pro Thr Pro Asn Leu Ala Ile Ser Glu Leu Arg
 465 470 475 480
 Val Phe Gly Leu Gly Phe Gly Lys Ala Pro Arg Ser Pro Gln Lys Leu
 485 490 495
 Ala Leu Asp Arg His Thr Asp Arg Cys Asp Val Thr Val Arg Trp Glu
 500 505 510
 Pro Val Lys Gly Ala Gln Gly Tyr Asn Val Leu Trp Gly Ile Ala Pro
 515 520 525
 Asp Lys Leu Tyr Ser Ser Trp Met Val Tyr Gly Gly Asn Glu Leu Glu
 530 535 540
 Met Lys Ser Leu Thr Ile Asp Gln Asp Tyr Tyr Phe Ala Val Glu Ala
 545 550 555 560
 Phe Asn Glu Asn Gly Val Ser Leu Pro Ser Glu Thr Lys Tyr Val Glu
 565 570 575

<210> 10200
 <211> 514
 <212> PRT
 <213> B.fragilis

<400> 10200
 Val Arg Arg Met Ser Phe Ile Pro Asn Lys Glu Glu Ile Ala Ser Leu
 1 5 10 15
 Glu Tyr Tyr Glu Glu Asn Tyr Val Trp Gly Gln Leu Gln Arg Thr Asp
 20 25 30
 Glu Glu Tyr Pro Tyr Pro Tyr Gly Ile Tyr Gly Ser Glu Asn Trp Tyr
 35 40 45

Gln	Asn	Arg	Ser	Gly	Lys	Tyr	Gly	Gly	Tyr	Glu	Asp	Gly	Gly	Ser	Gly
50						55				60					
Lys	Gly	Arg	Met	Trp	Arg	Thr	Phe	Asp	Tyr	Thr	Thr	His	Phe	Ala	Ile
65					70					75					80
Tyr	Tyr	Asn	Leu	Tyr	Arg	Ile	Ala	Glu	Asp	Asn	Pro	Glu	Met	Val	Ser
				85					90					95	
Tyr	Leu	Asp	Ala	Asp	Gly	Tyr	Leu	Glu	Arg	Ala	Tyr	Arg	Thr	Ala	Ile
			100					105					110		
Ala	Tyr	Phe	Glu	Val	Pro	Tyr	Asn	Ile	Leu	Met	Gly	Lys	Gln	Trp	Ala
			115				120					125			
Phe	His	Gly	Trp	Thr	Asp	Trp	Ala	Tyr	Lys	Gln	Gly	Asn	Phe	His	Glu
	130					135				140					
Arg	Tyr	Leu	Leu	Asp	Ile	Ile	Asn	Ala	Leu	Gln	Gln	Lys	Gly	Arg	Leu
145					150					155					160
Lys	Asp	Ala	Ala	Lys	Leu	Arg	Arg	Glu	Trp	Glu	Lys	Lys	Val	Thr	Tyr
				165					170					175	
Met	Val	Tyr	Glu	Asp	Pro	Trp	Pro	Phe	Gly	Ser	Glu	Met	Phe	Val	Asp
			180					185					190		
Arg	Thr	Ala	Phe	Glu	Ser	Ser	Tyr	Tyr	Val	Ala	Glu	Tyr	Ala	Lys	Leu
			195				200					205			
Asn	Pro	Ile	Lys	Pro	Glu	Glu	Gln	Phe	Trp	Tyr	Asp	Lys	Asn	Arg	Lys
	210					215					220				
Lys	Trp	Tyr	Ser	Tyr	Thr	Ser	Phe	Asp	Thr	Ser	Met	Ile	Asp	Arg	Phe
225					230					235					240
Met	Gln	Asn	Gln	Leu	Asp	Gly	Asn	Leu	Ala	Leu	Arg	Gly	Leu	Phe	Glu
				245					250					255	
Pro	Gly	Tyr	Ala	Asn	Leu	Gly	Thr	Ala	Trp	Ser	Gly	Gln	Tyr	Val	Asn
			260					265					270		
Leu	Asp	Tyr	Met	Thr	Gln	Met	Gly	Gly	Val	Ala	Leu	Leu	Asp	Tyr	Ala
			275				280					285			
Tyr	Arg	Phe	Ser	Asp	Arg	Pro	Asp	Arg	Tyr	Ile	Asn	Tyr	Gly	Tyr	Asn
	290					295					300				
Ser	Leu	Leu	Ala	Ser	Trp	Ala	Leu	Met	Asn	Thr	Gly	Thr	Lys	Lys	Thr
305					310					315					320
Asp	Phe	Gly	Tyr	Trp	Tyr	Arg	Gly	Glu	Gln	Asn	Asp	Gly	Ala	Val	Gly
				325					330					335	
Trp	Ala	Phe	Ser	Pro	Tyr	Gln	Asn	Ser	Arg	Thr	Tyr	Met	Asn	Tyr	Ile
			340					345					350		
Lys	Val	Gly	Arg	Ala	Pro	Trp	Arg	Phe	Asp	Gly	Glu	Ile	Asp	His	Gly
			355				360					365			
Leu	Thr	Gly	Gly	Ile	His	Gly	Ser	Gly	Val	Tyr	Leu	Leu	Asp	Asp	Pro
	370					375					380				
Asp	Phe	Gly	Leu	Ile	Gly	Tyr	Gly	Gly	Asn	Val	Arg	Met	Asp	Lys	Asp
385					390					395					400
Gly	Thr														

<210> 10201
 <211> 437
 <212> PRT
 <213> B.fragilis

<400> 10201

Asn	Leu	Glu	Leu	Thr	Thr	Thr	Met	Lys	His	Thr	Leu	Leu	Phe	Leu	Leu
1			5						10					15	
Met	Ile	Cys	Ala	Cys	Thr	Leu	Gln	Ala	Thr	Ala	Thr	Gly	Lys	Gln	Pro
			20					25					30		
Arg	Leu	Thr	Asp	Asp	Glu	Leu	Met	Thr	Leu	Val	Gln	Lys	Gln	Thr	Phe
			35				40					45			
Arg	Tyr	Phe	Trp	Asp	Phe	Ala	His	Pro	Glu	Ser	Gly	Leu	Ala	Arg	Glu
	50					55					60				
Arg	Ser	Asn	Asp	Arg	Leu	Glu	Ile	Ala	Thr	Ile	Gly	Gly	Ser	Gly	Phe
65					70					75					80
Gly	Val	Met	Ala	Ile	Ile	Val	Gly	Val	Glu	Arg	Gly	Phe	Ile	Thr	Arg
				85					90					95	
Glu	Gln	Gly	Ala	Glu	Arg	Leu	Leu	Lys	Ile	Val	Glu	Phe	Leu	Asn	Lys
			100					105					110		
Ala	Asp	Ser	Tyr	His	Gly	Ile	Trp	Ala	His	Trp	Met	Asp	Gly	Thr	Thr
		115					120					125			
Gly	Lys	Thr	Ile	Pro	Phe	Ser	Arg	Lys	Asp	Asp	Gly	Ala	Asp	Leu	Val
	130						135				140				
Glu	Ser	Ala	Phe	Met	Phe	Glu	Gly	Leu	Leu	Ala	Ala	His	Gln	Tyr	Phe
145					150					155					160
Thr	His	Asp	Asn	Pro	Thr	Glu	Asn	Arg	Ile	Arg	Gly	Leu	Ile	Asn	Thr
			165						170					175	
Leu	Trp	His	Gln	Ala	Glu	Trp	Asp	Trp	Phe	Thr	Arg	Gly	Gly	Glu	Asp
			180					185						190	
Val	Leu	Tyr	Trp	His	Trp	Ser	Pro	Asn	Asn	Gly	Trp	Ala	Met	Asn	His
		195					200					205			
Gln	Leu	Lys	Gly	Gln	Asn	Glu	Cys	His	Ile	Thr	Tyr	Ile	Leu	Ala	Ala
	210					215					220				
Ser	Ser	Pro	Thr	Tyr	Pro	Ile	Arg	Glu	Ser	Val	Tyr	His	Lys	Gly	Trp
225					230					235					240
Ala	Asn	Ser	Ile	Thr	Phe	Lys	Asn	Gly	Lys	Glu	Tyr	Tyr	Gly	Ile	Arg
			245						250					255	
Leu	Pro	Leu	Gly	Thr	Asp	Phe	Gly	Gly	Pro	Leu	Phe	Phe	Thr	His	Tyr
			260					265					270		
Ser	Tyr	Leu	Gly	Leu	Asp	Pro	Arg	Gly	Leu	Lys	Asp	Ser	Tyr	Ala	Asp
	275						280					285			
Tyr	Gly	Glu	Gln	Met	Lys	Ala	His	Thr	Leu	Ile	Asn	Arg	Ala	Tyr	Cys
	290					295					300				
Ile	Asp	Asn	Pro	Lys	Lys	Tyr	Lys	Gly	Tyr	Gly	Arg	Lys	Cys	Trp	Gly
305					310					315					320
Leu	Thr	Ala	Ser	Asp	Asn	His	Gln	Gly	Tyr	Ser	Ala	His	Cys	Pro	Gln
			325						330					335	
Asn	Asp	Leu	Gly	Val	Ile	Thr	Pro	Thr	Ala	Ala	Ile	Ser	Ser	Ile	Pro
		340						345					350		
Tyr	Thr	Pro	Glu	His	Ser	Leu	Glu	Ala	Met	Arg	Tyr	Phe	Tyr	Glu	Glu
		355					360					365			
Leu	Gly	Asp	Arg	Leu	Trp	Gly	Glu	Tyr	Gly	Phe	Lys	Asp	Ala	Phe	Asn
	370					375					380				
Leu	Thr	Glu	Asn	Trp	Phe	Ala	Ser	Ser	Tyr	Leu	Ala	Ile	Asp	Gln	Gly
385					390					395					400
Pro	Ile	Ile	Val	Met	Ile	Glu	Asn	Tyr	Arg	Ser	Gly	Leu	Ile	Trp	Lys

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              405              410              415
Leu Phe Met Ser His Pro Asp Val Gln Arg Gly Leu Lys Arg Leu Gly
              420              425              430
Phe Gly Ser Glu Glu
              435

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<210> 10202
<211> 113
<212> PRT
<213> B.fragilis
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<400> 10202
Ser Leu His Ala Pro Gln Leu Pro Phe His Tyr Gly Tyr Pro Cys Arg
1          5          10          15
Glu Lys Tyr Val His His Thr Tyr His Pro Thr Ala Met Ser His Thr
          20          25          30
Gly Tyr Asn Tyr Gly His Tyr Gln Pro Phe Arg Leu His Gly Pro Thr
          35          40          45
His Ser Asp Arg Leu Ser Ser Ser Ser Val Asn Asn Tyr Lys Tyr Ile
          50          55          60
Gly Tyr Asn Tyr Ser Glu Tyr Thr Asp Pro Arg Ser Ser Ser Gly Glu
65          70          75          80
Gly Val Asp Gly Arg Met Arg Glu Tyr Gln Thr Thr Thr Val Arg Arg
          85          90          95
Tyr Ser Asn His Met Ile Arg Phe Asn Lys Met Phe Gly Lys His Ser
          100          105          110
Ile

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<210> 10203
<211> 89
<212> PRT
<213> B.fragilis
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<400> 10203
Arg Met Lys Asn Ser Ala Cys His Cys Val Leu Val Arg Val Ala Glu
1          5          10          15
Lys Ala Asp Asn Ala Arg Asn Tyr Ser Gln Cys Asp Ser Leu Leu Leu
          20          25          30
Gly Asp Lys Cys Gly Ala His Thr Phe Pro Tyr Met Asp Ile His Asn
          35          40          45
Glu Thr Ala Val Val Glu His Glu Ala Thr Thr Ser Lys Ile Ser Glu
          50          55          60
Asp Gln Ile Phe Tyr Cys Asn Gln Gly Gly Thr Asn Gly Phe Pro Arg
65          70          75          80
Gly Leu Gln Arg Ala Ala Leu Phe Ile
          85

```

```
<210> 10204
<211> 77
<212> PRT
<213> B.fragilis
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```

<400> 10204
Arg Leu Ile Asp Thr Ala Ser Val Tyr Gly Asn Glu Arg Ala Val Gly
1      5      10      15
Met Ala Ile Arg Lys Ser Gly Ile Pro Arg Glu Glu Leu Phe Ile Thr
20      25      30
Thr Lys Ala Trp Ile Ser Glu Met Gly Tyr Glu Arg Thr Leu Arg Ala

```

35 40 45
 Leu Asp Thr Ser Leu Ala Arg Leu Gly Leu Asp Tyr Leu Asp Val Tyr
 50 55 60
 Ile Glu Cys Leu Pro Asn Ile Leu Leu Lys Arg Ile Ile
 65 70 75

<210> 10205
 <211> 187
 <212> PRT
 <213> B.fragilis

<400> 10205
 Gly Ala Ala Pro Ser Ser Pro Val Val Lys Thr Phe Ala Asp Gly Phe
 1 5 10 15
 Glu Glu Ile Glu Ala Leu Thr Thr Ile Asp Thr Leu Arg Arg Ala Gly
 20 25 30
 Leu Asp Val Glu Ile Val Ser Val Thr Pro Asp Glu Ile Val Val Gly
 35 40 45
 Ala His Asp Val Ser Val Leu Cys Asp Lys Asn Phe Glu Asn Cys Asp
 50 55 60
 Phe Phe Asp Ala Glu Leu Leu Phe Leu Pro Gly Gly Met Pro Gly Ala
 65 70 75 80
 Ala Thr Leu Asp Lys His Glu Gly Leu Arg Lys Leu Ile Leu Ser Phe
 85 90 95
 Ala Glu Lys Asn Lys Pro Ile Ala Ala Ile Cys Ala Ala Pro Met Val
 100 105 110
 Leu Gly Lys Leu Gly Leu Leu Lys Gly Arg Arg Val Thr Cys Tyr Pro
 115 120 125
 Ser Phe Glu Gln Tyr Leu Asp Gly Ala Asp Cys Thr Asn Glu Pro Val
 130 135 140
 Val Arg Asp Gly Asn Ile Ile Thr Gly Met Gly Pro Gly Ala Ala Met
 145 150 155 160
 Glu Phe Ala Leu Thr Ile Val Asp Thr Leu Leu Gly Lys Glu Lys Val
 165 170 175
 Asn Glu Leu Val Glu Ala Met Cys Val Arg Arg
 180 185

<210> 10206
 <211> 134
 <212> PRT
 <213> B.fragilis

<400> 10206
 Asp Cys Thr His Phe Gln Val Phe Ile Phe Met Glu Phe Arg Arg Asp
 1 5 10 15
 Asn Phe Pro Phe Leu Leu Thr Lys Asn Gln Phe Met Lys Lys Val Leu
 20 25 30
 Phe Ile Leu Leu Gly Cys Leu Leu Ser Phe Asn Val Met Ala Gln Val
 35 40 45
 Lys Ala Ile Ser Gly Leu Val Thr Asp Val Thr Gly Glu Pro Val Ile
 50 55 60
 Gly Ala Ser Val Val Glu Val Gly Thr Thr Asn Gly Val Ile Thr Asp
 65 70 75 80
 Leu Asn Gly Lys Phe Ser Leu Lys Val Ala Pro Asn Ser Gln Phe Leu
 85 90 95
 Val Ser Tyr Ile Gly Tyr Lys Gln Gln Thr Ile Lys Val Gly Ser Glu
 100 105 110
 Ser Thr Tyr Asn Ile Val Phe Thr Thr Gly Leu Glu Gly Ser Ala Leu
 115 120 125

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<210> 10207
<211> 70
<212> PRT
<213> B.fragilis
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<400> 10207
Ser Pro Leu Ser Val Ser Val Arg Phe Pro Ser Ala Leu Ser Ala Gly
1          5          10          15
Asn Gly Asp Val Arg Gly Leu Trp Leu Gly Ala Gly Leu Val Ser Leu
20          25          30
Gly Ala Ala Phe Leu Leu Asp Lys Lys Tyr Glu Met Thr Ser Asp Leu
35          40          45
Tyr Pro Val Asn Val Cys Tyr Asn Val Met Leu Ala Val Glu Pro Glu
50          55          60
Cys Pro Asp Ser Arg Leu
65          70

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```
<210> 10208
<211> 374
<212> PRT
<213> B.fragilis
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<400>	10208														
Glu	Asp	Ile	Thr	His	Ile	Pro	Val	Ile	Glu	Asp	Ser	Ala	Ser	Val	Ser
1				5					10					15	
Val	Thr	Ala	Asp	Ser	Val	Ala	Val	Lys	Arg	Ser	Phe	Phe	Lys	Lys	Phe
			20					25					30		
Leu	Asp	Tyr	Phe	Asn	Asp	Ala	Asn	Lys	Glu	Lys	Lys	Asn	Lys	Lys	Phe
		35					40					45			
Asp	Phe	Ser	Val	Ile	Gly	Gly	Pro	His	Tyr	Ser	Ser	Asp	Thr	Lys	Leu
	50					55					60				
Gly	Leu	Gly	Leu	Val	Ala	Ala	Gly	Leu	Tyr	Arg	Thr	Asp	Arg	Ala	Asp
65				70						75					80
Thr	Leu	Leu	Pro	Leu	Ser	Thr	Val	Ser	Leu	Tyr	Gly	Asp	Val	Ser	Thr
				85					90					95	
Val	Gly	Phe	Tyr	Leu	Leu	Gly	Val	Arg	Gly	Ser	His	Ile	Phe	Pro	Lys
			100					105					110		
Asp	Lys	Tyr	Arg	Leu	Asn	Tyr	Asn	Leu	Tyr	Phe	Tyr	Ser	Phe	Pro	Ser
		115					120					125			
Leu	Tyr	Trp	Gly	Val	Gly	Tyr	Arg	Asn	Ala	Val	Asn	Asp	Glu	Asn	Glu
	130					135					140				
Ser	Ser	Tyr	Lys	Arg	Phe	Gln	Ala	Gln	Val	Lys	Val	Asp	Phe	Met	Phe
145					150					155					160
Arg	Met	Ala	Lys	Asn	Phe	Tyr	Leu	Gly	Pro	Met	Ala	Ser	Phe	Asp	Tyr
				165					170					175	
Ile	Asp	Gly	Arg	Asn	Phe	Glu	Lys	Pro	Glu	Leu	Trp	Gln	Gly	Met	Asp
			180					185					190		
Ala	Arg	Thr	Ser	Asn	Val	Ser	Ala	Gly	Leu	Ser	Leu	Val	Tyr	Asp	Ser
		195					200					205			
Arg	Asp	Phe	Leu	Thr	Asn	Ala	Tyr	Lys	Gly	Tyr	Tyr	Leu	Arg	Ile	Asp
	210					215					220				
Gln	Arg	Phe	Ser	Pro	Ala	Phe	Leu	Gly	Asn	Asp	Tyr	Ala	Phe	Ser	Ser
225					230					235					240
Thr	Glu	Leu	Thr	Thr	Ser	Tyr	Tyr	Arg	Arg	Val	Trp	Lys	Gly	Gly	Ile
				245					250					255	
Leu	Ala	Gly	Gln	Phe	His	Thr	Leu	Leu	Thr	Tyr	Gly	Asn	Pro	Pro	Trp

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<210> 10209
<211> 69
<212> PRT
<213> B.fragilis
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<210> 10210
<211> 187
<212> PRT
<213> B.fragilis
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<400>	10210																
Gly	Leu	Glu	Lys	Ala	Arg	Pro	Asp	Leu	Tyr	Leu	Ile	Ser	Met	Lys	Leu		
1				5					10					15			
Phe	Asn	Ser	Ile	Lys	Lys	Trp	Phe	Gly	Asn	Gln	Glu	Asn	Leu	Phe	Tyr		
			20					25					30				
Leu	Phe	Leu	Phe	Val	Leu	Ile	Val	Pro	Asn	Val	Val	Leu	Cys	Phe	Thr		
		35				40						45					
Glu	Pro	Leu	Pro	Leu	Val	Ala	Lys	Ile	Ala	Asn	Val	Leu	Leu	Pro	Leu		
	50					55					60						
Gly	Cys	Tyr	Tyr	Leu	Ile	Met	Thr	Leu	Ser	Arg	Asn	Cys	Gly	Lys	Met		
65				70					75					80			
Leu	Trp	Ile	Leu	Phe	Leu	Phe	Val	Phe	Phe	Gly	Ala	Phe	Gln	Ile	Val		
				85					90					95			
Leu	Leu	Tyr	Leu	Phe	Gly	Gln	Ser	Ile	Ile	Ala	Val	Asp	Met	Phe	Leu		
			100					105					110				
Asn	Leu	Ala	Thr	Thr	Asn	Ser	Ser	Glu	Ala	Met	Glu	Leu	Leu	Asp	Asn		
		115					120					125					
Leu	Leu	Pro	Ala	Leu	Ile	Thr	Ile	Val	Ile	Leu	Tyr	Ile	Pro	Ala	Leu		
	130					135					140						
Ile	Leu	Gly	Met	Ile	Ser	Ile	Val	Arg	Lys	Arg	Thr	Leu	Ser	Val	Gly		
145				150						155					160		

Phe Ile Arg Arg Glu Arg Arg Arg Ala Trp Val Val Ala Gly Cys Arg
165 170 175
Ser Gly Ile Val Gly Ser Gly Leu Pro Val Gly
180 185

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<210> 10211
<211> 68
<212> PRT
<213> B.fragilis
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<400> 10211
Arg Asp Phe Glu Gly Phe His Phe His Cys Arg Arg Thr His Pro Ala
1          5          10          15
Glu Asp Arg Glu Ile Tyr Val Leu Val Val Gly Glu Thr Ser Arg Ala
          20          25          30
Leu Asn Trp Ser Leu Tyr Gly Tyr Asp Arg Glu Thr Asn Pro Lys Leu
          35          40          45
Ser Glu Val Ser Gly Leu Thr Ala Phe Thr Asn Val Pro Asp Pro Ile
          50          55          60
Glu Tyr Asn Ser
65

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```
<210> 10212
<211> 133
<212> PRT
<213> B.fragilis
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<400> 10212
Arg Leu Leu Arg Met Cys Leu Thr Gln Ser Asn Thr Thr His Lys Met
1          5          10          15
Val Pro Met Leu Met Ser Ala Val Ser Ala Glu Asn Phe Asp Ser Ile
          20          25          30
Tyr His Gln Lys Gly Ile Ile Thr Ala Phe Lys Asp Ala Gly Phe Arg
          35          40          45
Thr Ala Phe Phe Ser Asn Gln Gly Tyr Asn Thr Ser Phe Ile Asp Cys
          50          55          60
Phe Gly His Glu Ala Asp His Cys Asp Phe Ile Lys Glu Asp Pro Leu
65          70          75          80
Thr Ala Gly Gln Asn Leu Ser Asp Asp Tyr Leu Asp Asp Leu Val Gln
          85          90          95
Glu Val Leu Ala Thr Gly Thr Arg Lys Arg Phe Ser Arg Leu Tyr Pro
          100          105          110
Ser Gly Ile His Leu Asn Asn Arg Asn Arg Met Leu Val Gln Thr Ser
          115          120          125
Leu Ile Leu Ala Glu
          130

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```
<210> 10213
<211> 107
<212> PRT
<213> B.fragilis
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<220>  
<221> UNSURE  
<222> (44),(54),(70),(83)  
<223> Identity of amino acid sequences at the above locations are unknown.
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<400> 10213
Pro Ser Ser Ser Gln Lys Arg Thr Phe Ser Cys Thr Leu Ser Gly Leu

1								5					10					15
Tyr	Ser	Lys	Arg	Leu	Leu	Pro	Gly	Ile	Leu	Leu	Val	Ser	Leu	Arg	Gly			
				20					25					30				
Gly	Lys	Leu	Lys	Ser	Glu	Phe	Phe	Ser	Pro	Ala	Xaa	Arg	Ile	Ile	Glu			
				35					40					45				
Thr	Ser	Ser	Pro	Arg	Xaa	Ile	Ile	Glu	Thr	Pro	Pro	Ile	Ala	Tyr	Phe			
				50					55					60				
Asn	Leu	Phe	Ile	His	Xaa	Glu	Lys	Ser	Met	Ser	Gly	Gly	Val	Leu	Val			
65					70					75					80			
Thr	Val	Xaa	Ile	Glu	Ile	Leu	Ser	Ser	Ser	Asn	Asn	Phe	Asn	Asp	Ser			
				85					90					95				
Ser	Asn	Leu	Phe	Gly	Gln	Ser	Leu	Glu	Val	Thr								
				100					105									

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<210> 10214
<211> 288
<212> PRT
<213> B.fragilis
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<400> 10214

Ser	Pro	Ile	Lys	Phe	Leu	Phe	Ser	Tyr	Lys	Pro	Lys	Arg	Ile	Phe	Leu
1				5					10					15	
Ile	Asp	Leu	Met	Ala	Leu	Ser	Asp	Tyr	Val	Thr	Ser	Lys	Asp	Cys	Pro
			20					25					30		
Asn	Lys	Phe	Glu	Glu	Ser	Leu	Lys	Leu	Phe	Asp	Glu	Asp	Arg	Ile	Ser
			35				40					45			
Ile	Phe	Thr	Val	Thr	Asn	Thr	Pro	Pro	Asp	Ile	Asp	Phe	Ser	Ile	Trp
			50			55					60				
Ile	Asn	Lys	Leu	Lys	Tyr	Ala	Ile	Gly	Gly	Val	Ser	Met	Ile	Lys	Arg
65					70					75				80	
Gly	Asp	Glu	Val	Ser	Met	Ile	Leu	Leu	Ala	Gly	Glu	Lys	Asn	Ser	Asp
				85					90					95	
Leu	Ser	Leu	Pro	Pro	Leu	Lys	Glu	Thr	Lys	Arg	Ile	Pro	Gly	Lys	Ser
			100					105					110		
Arg	Leu	Glu	Tyr	Ser	Pro	Asp	Arg	Val	Gln	Glu	Lys	Val	Arg	Phe	Trp
			115				120					125			
Asp	Asp	Glu	Gly	Tyr	Trp	Lys	Thr	Ile	Ile	Leu	Leu	Arg	Phe	Asp	Val
			130			135						140			
Leu	Thr	Met	Glu	Leu	Asp	Ala	Lys	Phe	Ile	Asn	Lys	Asp	Met	Gly	Asn
145					150					155				160	
Ser	Phe	Ser	Val	Leu	Thr	Asp	Tyr	Ile	Glu	Ser	Phe	Leu	Ser	Glu	Lys
				165					170					175	
Gly	Glu	Phe	Leu	Phe	Pro	Glu	Ala	Glu	Asn	Tyr	Leu	Asn	Glu	Gln	Lys
			180					185					190		
Val	Lys	Ile	Gln	Asn	Tyr	Tyr	Pro	Leu	Phe	Glu	Ile	Ala	Arg	Thr	Cys
			195				200					205			
Leu	His	Leu	Leu	Ser	Tyr	Val	Glu	Lys	Tyr	Thr	Asp	Ser	Leu	Ser	Ser
			210			215					220				
Glu	Glu	His	Ile	Thr	Val	Leu	Gly	His	Glu	Pro	Ile	Lys	Pro	Arg	Phe
225					230					235				240	
Phe	Lys	Lys	Asp	Lys	Met	Val	Pro	Pro	Lys	Tyr	Glu	Leu	Arg	Lys	Arg
				245					250					255	
Asp	Val	Trp	Asn	Leu	Lys	Arg	Gln	Arg	Asp	Asn	Tyr	Ser	Ser	Ser	Ile
			260					265					270		
Ile	Thr	Phe	Lys	Ser	Ser	Pro	Arg	Gly	Trp	Lys	Tyr	Gln	Arg	Cys	Ser
			275				280					285			

<210> 10215
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<213> B.fragilis

[illegible]

<211> 104

<212> PRT

<213> B.f

[illegible]

<211> 276

<212> PRT

<213> B.fragilis

<400> 10217

Lys Ser Arg Tyr Met Asn Asn Tyr Val Lys Thr Ser Val Pro Arg Pro
 1 5 10 15
 Val Gly Asn Pro Gly Asn Gly Ile Asn Pro Lys Asp Val Leu Thr Leu
 20 25 30
 Ile Asp Ile Asp Asp Leu Val Tyr Phe Pro Pro Arg Asp Gly Ala Gly
 35 40 45
 Val Val Leu Glu Gly Asp Ile Val Val Lys Pro Ser Ala Tyr Ser Thr
 50 55 60
 Asp Leu Tyr Leu Thr Pro Gly Thr Val Glu Leu Ser Ser Asn Gly Glu
 65 70 75 80
 Gly Glu Thr Asp Ala Lys Gly Phe Thr Pro Ser Val Lys Gly Lys His
 85 90 95
 Pro Gly Asn Lys Gln Glu Val Arg Glu Phe Lys Thr Asn Trp Leu Gly
 100 105 110
 Arg His Cys Ile Ala Ile Leu Gln Tyr Cys Asn Gly Gln Asp Pro Asp
 115 120 125
 Ile Leu Gly Ser Pro Cys Asn Pro Leu Glu Met Ser Val Asn Tyr Thr
 130 135 140
 Gly Asn Lys Asp Gly Asn Ala Ser Glu Phe Thr Phe Thr Gln Ile Ser
 145 150 155 160
 Lys Gly Asp Asp Ile Gly Ile Tyr Lys Gly Thr Ile Pro His Glu Glu
 165 170 175
 Pro Val Ala Thr Val Pro Ala Ser Ala Thr Glu Ile Pro Phe Lys Gly
 180 185 190
 Arg Gly Gln Tyr Gln Leu Ser Ala Gly Ala Ala Lys Ile Ala Thr Ile
 195 200 205
 Lys Gly Ala Lys His Gly Asp Leu Phe Thr Leu Leu Gly Val Val Ser
 210 215 220
 Gly Val Ala Pro Thr Ile Glu Lys Ala Gly Gln Thr Ala Phe Met Leu
 225 230 235 240
 Lys Asn Gly Lys Thr Phe Thr Ala Ser Pro Gly Ser Gln Ile Thr Phe
 245 250 255
 Lys Ala Phe Asp Thr Gly Gly Gly Ala Ile Gln Cys Val Glu Gln Ser
 260 265 270
 Arg Phe Glu Val
 275

<210> 10218

<211> 61

<212> PRT

<213> B.fragilis

<400> 10218

Asn Gly Ile Gln Lys Lys Lys Leu Ile Phe His Arg Arg Arg Leu Glu
 1 5 10 15
 Ile Lys Arg Ala Ser Trp Leu Lys Met Gly Thr Arg Tyr Leu His Pro
 20 25 30
 Cys Asp Arg Ser Glu Ala Gly Met Gln Ala Arg Lys Leu Asp Asn Glu
 35 40 45
 Ile Leu Ser Cys Asn Asn Arg Leu Met Asn Leu Tyr Glu
 50 55 60

<210> 10219

<211> 495

<212> PRT

<213> B.fragilis

<400> 10219

Leu	Phe	Leu	His	Val	Gln	Thr	Leu	Val	Lys	Asn	Ser	Phe	Arg	Arg	Pro
1			5						10					15	
Arg	Arg	Ser	Glu	Ala	Glu	Arg	Gln	Leu	Pro	Glu	Gly	Gln	Met	Val	Lys
		20						25					30		
Tyr	Asp	Tyr	Ile	Lys	Gly	Arg	Gln	Ala	Glu	Gly	Leu	Gly	Thr	Lys	Asn
	35						40					45			
Arg	Phe	Arg	Tyr	Phe	Arg	Lys	Arg	Ser	Gly	Lys	Thr	Arg	Gln	Leu	Pro
	50					55					60				
Phe	Leu	Ser	Pro	Arg	Gln	Val	Ile	Glu	Ser	Gly	His	Val	Gly	Thr	Gly
65					70					75					80
Pro	Ala	Ala	Ala	Gly	Leu	Ala	Pro	Asp	Gly	Thr	Pro	Pro	Gly	Pro	Pro
			85						90					95	
His	His	Gln	Val	Leu	Glu	Gly	Val	Gly	Glu	Val	Arg	Gly	Glu	His	Gly
		100						105					110		
Gln	Phe	Leu	Gly	Leu	Gln	Leu	Leu	Gly	Leu	Leu	Asp	Leu	Val	Asp	Asp
		115					120						125		
Leu	Leu	Leu	Ser	Leu	Val	Thr	Asp	Thr	Arg	Arg	Arg	Leu	Leu	Asp	Thr
	130					135						140			
Gly	Asp	Gly	Leu	Ala	Thr	Val	His	Arg	Val	Asn	Lys	Gln	Ser	Gly	Glu
145					150					155					160
Gly	Val	Val	Val	Ala	Cys	His	Gln	Leu	Leu	His	Glu	Ile	Val	Leu	Phe
			165						170					175	
Ile	Leu	Ala	Asp	Ile	Gly	Leu	Phe	Ala	Ala	His	Gln	Val	Asp	Asn	Pro
		180						185					190		
Ser	Arg	Ala	Val	Thr	Val	Thr	Val	Tyr	Leu	Asp	Gly	Leu	Leu	Glu	Leu
	195						200					205			
Ala	Gly	Val	Ile	Leu	Phe	Leu	Leu	Leu	Glu	Val	Ile	Ala	Arg	Pro	Val
	210					215					220				
Val	Ile	Gln	Val	Gln	Phe	Leu	Leu	Leu	Met	Val	Lys	Glu	Glu	Cys	Gln
225				230						235					240
Glu	Leu	Val	Gly	Gln	Leu	Pro	Glu	Pro	Ser	Gly	Arg	Lys	Leu	Val	Lys
			245						250					255	
Val	Leu	Val	Lys	Ala	Val	Gln	Arg	Ser	Val	Leu	Leu	Ser	Tyr	Tyr	Gln
		260					265						270		
Gly	Gln	Leu	Val	Thr	Glu	Val	His	Ala	Ala	Val	Asp	Gly	Leu	Ala	Ala
	275						280					285			
Pro	Glu	Glu	Thr	Gln	Val	Gln	Ala	Ala	Leu	Cys	Arg	Phe	Ser	Val	Pro
290					295						300				
Cys	Pro	Val	Gly	Ile	Leu	Val	Pro	Phe	Pro	Glu	Ser	Asp	Ile	Glu	Ala
305				310						315					320
Arg	Val	Thr	Ala	Lys	Pro	Arg	Thr	His	Pro	His	Tyr	Arg	Leu	Lys	Glu
			325						330					335	
Val	Val	Glu	Phe	Glu	Arg	Pro	Val	Glu	Lys	Ala	Thr	Asp	Val	Leu	Arg
		340						345					350		
Arg	Lys	Asp	Val	Asp	Val	Gly	Lys	Thr	Arg	Gly	Val	Asp	Glu	Val	Gly
	355						360					365			
Leu	Pro	Leu	Ala	His	Leu	Gln	Gln	Pro	Arg	Leu	Val	Pro	Gly	Asp	Phe
	370					375					380				
Leu	Leu	Lys	Ser	Pro	Ala	Val	Arg	Pro	Cys	Pro	Ser	Arg	Phe	Tyr	Gln
385				390						395					400
Ala	Asp	Ala	Gln	Ala	Val	Gln	Leu	Arg	Ser	Arg	Leu	Gly	Asp	Thr	Gln
			405						410					415	
Asp	Ala	Leu	Arg	Ile	Asp	Gln	Thr	Asp	Val	Thr	Glu	Val	Pro	Val	Ile
		420						425					430		
Leu	Thr	Leu	Gln	His	Val	Gly	His	Val	Gly	Gly	Asn	Gly	His	Pro	Gln
	435						440					445			
Lys	Ile	Val	Ala	Ala	Ser	Val	Thr	Tyr	Gly	Ile	Pro	Ala	Gln	Tyr	Gly
	450					455					460				
His	Gly	Pro	Val	Asp	Phe	Ile	Val	Gly	Gly	Val	Phe	Gly	Phe	Val	Glu

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465 470 475 480
Glu Gln Met Asn Asp Arg Phe Ala Arg Gln Lys Gly Gly Val Val
 485 490 495

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<210> 10220
<211> 115
<212> PRT
<213> B.fragilis
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<400> 10220
Ile Tyr Met Asn Asn Met Glu Arg Leu Pro Ala Asp Thr Phe Phe Leu
1          5          10          15
Asp Leu Glu Leu Arg Gln Glu Val Glu Arg Met Ala Ser Leu Gly Tyr
          20          25          30
Ala Pro Asp Asp Ile Ala Ser Tyr Leu Gly Leu Asp Ala Glu Ser Phe
          35          40          45
Val Phe Asp Ala Gly Arg Glu Gly Thr Thr Val Tyr Ser Leu Met Arg
          50          55          60
Arg Gly Ala Leu Lys Ala Gly Ala Gly Val Glu Leu Lys Leu Gln Glu
65          70          75          80
Gln Ala Leu Ser Gly Asp Leu Asp Ala Met Glu Leu Leu Glu Lys Val
          85          90          95
Arg Gly Arg Arg Ser Phe Glu Ile Ile Val Lys Gln Ile Asp Glu Asp
          100          105          110
Glu Phe Gly
          115

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<210> 10221
<211> 555
<212> PRT
<213> B.fragilis
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<400>	10221																		
Pro Thr Asp Asp Val Glu Val Arg Tyr Ser His Ile Ile Lys Val His																			
1					5								10						15
His Arg Leu Asp Arg His His Gln Pro Gly Cys Arg Arg Gly Pro Ala																			
					20								25						30
Ala Lys Ser Thr Val Ile Gln Ala Arg Arg Ser Ala Asp Cys Val Tyr																			
					35								40						45
Asp Met Pro Gly Ala Pro Leu Ala Phe Val Gly Asn Thr Tyr Thr Asn																			
					50								55						60
Leu Arg Asp Asn Ile Met Pro Ala Val Lys Thr Gly Trp Glu Leu Met																			
65					70								75						80
Gly Leu Tyr Glu Gly Val His Tyr Val Ser Ser Cys Arg Pro Pro Glu																			
					85								90						95
Ser Trp Arg Arg Arg Cys Ser Val Ile Val Asp Asp Tyr Lys Asn Thr																			
					100								105						110
Val Ser Phe Asn Gly Cys Ile Ile Phe Leu Gly Ser Leu Asp His																			
					115								120						125
Pro Ser Leu Leu Ala Gly Lys Ser Val Val His Leu Phe Phe Asp Glu																			
					130								135						140
Ser Lys Tyr Ala Pro Asp Asn Lys Val Asn Arg Ala Met Pro Val Leu																			
145					150								155						160
Arg Gly Asp Ala Ile Arg Tyr Gly Cys Ser His Tyr Phe Leu Gly Val																			
					165								170						175
Thr Ile Thr Thr Asp Met Pro Asp Val Leu Glu Gly Glu Tyr Asp Trp																			
					180								185						190
Tyr Phe Arg Tyr Val Cys Leu Val Asp Pro Gln Arg Ile Leu Arg Ile																			
					195								200						205

Ala Gln Ala Ala Ala Glu Leu Asn Ser Leu Arg Val Arg Leu Val Lys
 210 215 220
 Ala Gly Arg Thr Arg Thr Asp Cys Gly Ala Leu Lys Lys Lys Ile Ala
 225 230 235 240
 Trp Tyr Glu Ala Gly Leu Leu Lys Met Arg Lys Gly Gln Thr Tyr Phe
 245 250 255
 Ile Asn Ala Ser Ser Phe Thr Asn Ile Asp Ile Leu Thr Pro Glu Tyr
 260 265 270
 Val Arg Arg Leu Leu Asp Gly Ala Leu Glu Leu His Asp Phe Leu Lys
 275 280 285
 Ser Val Val Gly Met Arg Pro Gly Leu Arg Arg Asp Thr Arg Phe Tyr
 290 295 300
 Ile Ala Phe Gly Glu Arg His Lys Tyr Thr Asp Gly Thr Arg Tyr Gly
 305 310 315 320
 Glu Pro Ala Gln Ser Cys Leu Asp Leu Arg Phe Leu Arg Arg Gly Glu
 325 330 335
 Pro Ile Asp Gly Gly Val Asp Phe Gly Asn Gln Leu Ser Leu Ile Val
 340 345 350
 Gly Gln Gln Asp Gly Pro Leu Tyr Arg Leu His Lys Asn Phe Tyr Glu
 355 360 365
 Leu Pro Pro Gly Trp Phe Arg Gln Leu Ala Asp Gln Phe Leu Ala Phe
 370 375 380
 Phe Leu Asn His Glu Glu Lys Glu Leu Asn Leu Tyr Tyr Asp Arg Ala
 385 390 395 400
 Gly Asn Asn Phe Glu Lys Gln Lys Glu Asp Tyr Ala Arg Lys Leu Lys
 405 410 415
 Gln Ala Ile Glu Ile Asp Gly Asp Gly Asn Arg Thr Gly Trp Ile Val
 420 425 430
 Asn Leu Met Ser Arg Lys Gln Ser Asn Ile Arg Gln Asp Glu Glu Tyr
 435 440 445
 Asp Phe Met Gln Glu Leu Met Thr Gly Asp Asn Asp Ala Leu Pro Thr
 450 455 460
 Leu Leu Val Asp Ala Val Asn Cys Arg Glu Thr Ile Ser Ser Ile Glu
 465 470 475 480
 Lys Ala Pro Ala Gly Ile Arg Tyr Lys Gly Gln Gln Lys Ile Ile Tyr
 485 490 495
 Lys Val Lys Lys Ser Glu Lys Leu Glu Pro Lys Lys Leu Pro Met Leu
 500 505 510
 Ser Thr Asn Phe Ser Asp Ala Phe Lys Tyr Leu Met Met Arg Gly Ala
 515 520 525
 Trp Arg Arg Ala Val Arg Gly Lys Ser Gly Arg Ser Arg Ser Gly Pro
 530 535 540
 Tyr Met Pro Gly Leu Asp Asp Leu Thr Gly Gly
 545 550 555

<210> 10222

<211> 358

<212> PRT

<213> B.fragilis

<400> 10222

Trp Ser Asp Ile Lys Thr Ile Pro Leu Ser Gly Asn Cys Leu Val Phe
 1 5 10 15
 Pro Leu Arg Gly Lys Ala Ile Ala Phe Phe Gln Ser Phe Val Pro Gln
 20 25 30
 Pro Val Ser Gly Ile Phe Thr Ala Tyr His Leu Lys Phe Asn Ser Met
 35 40 45
 Lys Glu Gln Ile Ile Ser Tyr Leu Glu Gly Pro Arg Asp Tyr Ser Gln
 50 55 60

Gly Val Ala Leu Tyr Glu Gln Phe Gly Pro Asn Arg Met Leu Lys Ala
 65 70 75 80
 Lys Phe Arg Gln Ile Gly Glu Cys Glu Met Thr Arg Gly Thr Leu Ile
 85 90 95
 Glu Glu Leu Arg Lys Leu Ser Gly Met Ser Glu Ala Glu Phe Ala Gly
 100 105 110
 Met His Arg Lys Ala His His Ile Pro Ser Lys Ala Glu Gln Pro Val
 115 120 125
 Ser Pro Val Pro Val Arg Met Tyr Ala Asp Asp Leu Leu Ile Ala Leu
 130 135 140
 Ala Ser Arg Leu Gly Val Thr Val Glu Lys Leu Val Ser Asp Asp Phe
 145 150 155 160
 Val Lys Glu Arg Leu Ser Gln Ser Pro Asp Met Glu Gln Val Arg Gly
 165 170 175
 Leu Lys Glu Glu Leu Glu Asn Ala Gln Ser Thr Tyr Ser Glu Ala Pro
 180 185 190
 Glu Thr Val Arg Lys Ala Ile Arg Phe Arg Glu Glu Phe Pro Phe Leu
 195 200 205
 Arg Gln Pro Asp Cys Pro Asp Glu Leu Lys Val Leu Val Ala Asp Met
 210 215 220
 Phe Ser Ala Tyr Asp Leu Tyr Arg Glu Ser His Arg Met Leu Val Glu
 225 230 235 240
 Thr Pro Asp Asp Val Ala Thr Gly Glu Thr Tyr Leu Trp Ala Lys Thr
 245 250 255
 Ala Val Glu Asn Phe Leu Glu Asn Arg Gln Met Trp Glu Glu Leu Glu
 260 265 270
 Tyr Tyr Lys Asn Asn Gly Glu Ile Leu Gly Lys Ala Gln Ala Met Arg
 275 280 285
 Gln Ala Arg Glu Lys Gln Glu Ile Ser Ser Leu Thr Asp Leu Glu Leu
 290 295 300
 Ser Lys Gln Leu Gly Asn Ala Lys Ser Asn Ile Ser Lys Gly Lys Asn
 305 310 315 320
 Glu Leu Glu Lys Ala Pro Asp Glu Glu Lys Arg Val Lys Ala Met Glu
 325 330 335
 Lys Thr Arg Lys Trp Thr Glu Arg Lys Asn Leu Leu Glu Ala Glu Met
 340 345 350
 Glu Ser Arg Lys Lys Asn
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<210> 10223

<211> 209

<212> PRT

<213> B.fragilis

<400> 10223

Ser Lys Ser Met Lys Thr Asn Leu Val Lys Pro Ser Arg Val Asn Phe
 1 5 10 15
 Glu Lys Ala Asp Ile Gly Gln Ile Gly Arg Ile Leu Ala Thr Gly Asp
 20 25 30
 Leu Asp Ser Leu Pro Glu Glu Gln Arg Ala Tyr Tyr Asp Leu Met Glu
 35 40 45
 Met Val Arg Gly Leu Arg Ala Arg Met Arg Tyr Asn Gly Lys Val Ile
 50 55 60
 Thr Lys Ala Gly Ile Ile Arg Leu Leu Lys Ser Glu Val Tyr Gly Leu
 65 70 75 80
 Ser Asp Trp Met Ala Arg Gln Val Tyr Ala Asp Ser Val Asn Phe Phe
 85 90 95
 Tyr Ser Gln Glu Asn Ile Arg Pro Gln Ala Phe Ala Asn Leu Tyr Ala
 100 105 110

[illegible]

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<210> 10224
<211> 337
<212> PRT
<213> B.fragilis
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<400> 10224																
Phe	Cys	Gly	Ala	Glu	Ile	Asn	Ile	Ser	Lys	Met	Asn	Ala	Lys	Lys	Asn	
1				5					10					15		
Leu	Met	Ala	Phe	Ile	Leu	Thr	Val	Ser	Ser	Ile	Ala	Leu	Met	Val	Ile	
			20					25					30			
Cys	Leu	Gly	Leu	Glu	Met	Val	Lys	Ala	Cys	Ala	Gly	Gly	Asp	Gly	Ser	
		35					40					45				
Glu	Trp	Lys	Lys	Lys	Val	Ala	Ala	Asp	Thr	Leu	His	Val	Val	His	Tyr	
	50				55					60						
Thr	Arg	Pro	Asp	Leu	Pro	Gln	Ile	Met	Thr	Asp	Pro	Ala	Glu	Arg	Ala	
65					70					75					80	
Val	Tyr	Tyr	Val	Lys	His	Tyr	Trp	Asp	Gly	Tyr	Leu	Thr	Gly	Asp	Thr	
				85					90					95		
Ala	Trp	Val	Asn	Ser	Gly	Asp	Thr	Glu	Gln	Leu	Tyr	Val	Asp	Phe	Ile	
			100					105					110			
Asp	Ala	Leu	Lys	Tyr	Val	Glu	Pro	Glu	Thr	Gly	Arg	Lys	Ala	Leu	His	
		115					120					125				
Thr	Met	Met	Val	Arg	Met	Glu	Ala	Asp	Ser	Thr	Ala	Tyr	Arg	Arg	Phe	
	130					135					140					
Gly	Leu	Leu	Gly	Glu	Lys	Tyr	Leu	Asn	Glu	Pro	Asn	Ser	Pro	Met	Arg	
145					150					155					160	
Asn	Glu	Asp	Phe	Tyr	Ile	Ala	Val	Leu	Glu	Gln	Met	Leu	Gln	Ser	Asp	
			165						170					175		
Arg	Leu	Gln	Glu	Trp	Glu	Lys	Ile	Arg	Pro	Ala	Asp	Arg	Leu	Lys	Gln	
			180					185					190			
Ala	His	Lys	Asn	Arg	Pro	Gly	Met	Lys	Ala	Ala	Asp	Phe	Thr	Tyr	Val	
		195					200					205				
Thr	Val	His	Gly	Asp	Asn	Ser	Arg	Met	Ser	Arg	Leu	Lys	Ala	Gln	Tyr	
	210					215					220					
Thr	Met	Leu	Phe	Phe	Tyr	Asp	Pro	Asp	Cys	Ser	Asn	Cys	Arg	Lys	Phe	
225					230					235					240	
Glu	Lys	Leu	Phe	Ala	Glu	Ile	Pro	Ala	Phe	Val	Glu	Met	Val	Glu	Asn	
			245						250						255	
Gly	Thr	Leu	Arg	Val	Leu	Ala	Ile	Tyr	Pro	Asp	Glu	Asn	Arg	Glu	Glu	
			260					265					270			
Trp	Ala	Ala	Lys	Ala	Val	Tyr	Met	Pro	Gln	Gly	Trp	Ile	Val	Gly	Trp	
		275					280						285			
Asn	Lys	Ala	Gly	Asp	Ile	Arg	Thr	Arg	Gln	Leu	Tyr	Asp	Ile	Arg	Ala	
	290					295					300					

Thr Pro Thr Ile Tyr Leu Leu Asp Gly Arg Lys Arg Val Ile Leu Lys
 305 310 315 320
 Asp Thr Ser Met Glu Gln Leu Ile Asp Tyr Leu Ala Thr Gln Ala Gly
 325 330 335
 Lys

<210> 10225
 <211> 126
 <212> PRT
 <213> B.fragilis

<400> 10225
 Thr Leu Lys Asp Met Val Glu Ile Arg Lys Ile Glu Glu Val Trp Gly
 1 5 10 15
 Gly Val Asp Ile Pro Glu Ile Thr Gly Val Tyr Asp Pro Leu Ser Gly
 20 25 30
 Leu Arg Asp Gly Thr Ile Thr Ser Gln Ala Pro Ile Val Val Ser Gly
 35 40 45
 Tyr Asn Leu Asn Arg Tyr Ala Leu Glu Asn Ile Arg Leu Cys Leu Val
 50 55 60
 Thr His Ala Lys Pro Glu Gln Val Ile Asp Ile Arg Leu Val Tyr Thr
 65 70 75 80
 Tyr Ser Glu Gly Lys Val Val Val Ala Leu Pro Glu Leu Lys Pro Gly
 85 90 95
 Glu Tyr Arg Pro Ala Val Ile Leu Lys Gly Asp Glu Lys Lys Val Tyr
 100 105 110
 Val Leu Pro Met Arg Trp Val Val Arg Gly Arg Trp Arg Arg
 115 120 125

<210> 10226
 <211> 71
 <212> PRT
 <213> B.fragilis

<400> 10226
 Thr Gly Leu Leu Leu His Arg Gln Leu Tyr Pro Phe Pro Phe Glu
 1 5 10 15
 Val Tyr Ala Gln Tyr Phe His Arg Asp Val Leu Val Asn Gly Asp His
 20 25 30
 Phe Gly Gly Ile Gly Asp Glu Ser Val Gly Lys Leu Gly Glu Met Asp
 35 40 45
 Lys Pro Val Leu Leu Asp Ala Tyr Ile Asp Lys Ser Ser Glu Val Gly
 50 55 60
 Asp Val Ala Asp Asn Thr Gly
 65 70

<210> 10227
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 <212> PRT
 <213> B.fragilis

<400> 10227
 Phe Met Glu Ile Phe His Lys Met Ile Ser Ala Ala Leu Asn Leu Pro
 1 5 10 15
 Glu Lys Gln Ile Ser Asn Thr Leu Gly Leu Leu Ala Glu Gly Ala Thr
 20 25 30
 Ile Pro Phe Ile Ser Arg Tyr Arg Lys Glu Ile Thr Gly Gly Leu Asp
 35 40 45

Glu 50	Val	Gln	Ile	Glu	Ser 55	Ile	Lys	Thr	Gln	Tyr	Asp 60	Lys	Leu	Ser	Glu
Leu 65	Ala	Lys	Arg	Lys	Glu 70	Thr	Ile	Leu	Gly	Thr	Ile	Gly	Glu	Gln	Gly 80
Lys	Leu	Thr	Pro	Glu	Leu 85	Arg	Gln	Arg	Ile	Asp	Ala	Thr	Trp	Asp	Ala 90
Thr	Ala	Leu	Glu	Asp	Ile 100	Tyr	Leu	Pro	Tyr	Lys	Pro	Lys	Arg	Lys	Thr 105
Arg	Ala	Glu	Ala	Ala	Arg 115	Gln	Lys	Gly	Leu	Glu	Pro	Leu	Ala	Leu	Leu 120
Leu	Met	Met	Gln	Arg	Glu 130	Asn	Asn	Leu	Gly	Ser	Arg	Ile	Pro	Ala	Phe 135
Val 145	Lys	Gly	Asp	Val	Lys 150	Asp	Ala	Glu	Asp	Ala	Leu	Lys	Gly	Ala	Arg 155
Asp	Ile	Ile	Ala	Glu	Gln 165	Val	Ser	Glu	Asp	Glu	Arg	Ala	Arg	Asn	Ala 170
Val	Arg	Asn	Leu	Phe	Ala 180	Arg	Gln	Ala	Val	Ile	Ser	Ala	Lys	Val	Val 185
Lys	Gly	Lys	Asp	Glu	Glu 195	Ala	Ala	Lys	Tyr	Arg	Asp	Tyr	Phe	Asp	Phe 200
Ser	Ser	Pro	Leu	Lys	Arg 210	Cys	Thr	Ser	His	Arg	Leu	Leu	Ala	Ile	Arg 215
Arg 225	Ala	Glu	Ala	Glu	Gly 230	Leu	Leu	Lys	Val	Ser	Ile	Thr	Pro	Asp	Asp 235
Asp	Glu	Cys	Leu	Glu	Arg 245	Leu	Asp	Arg	Gln	Phe	Val	Arg	Ser	Asn	Asn 250
Glu	Cys	Gly	Arg	Gln	Val 260	Ala	Glu	Ala	Val	Gln	Asp	Ala	Tyr	Arg	Arg 265
Leu	Leu	Lys	Pro	Ser	Ile 275	Glu	Thr	Glu	Phe	Ala	Ser	Leu	Ser	Lys	Glu 280
Gln	Ala	Asp	Asp	Glu	Ala 290	Ile	Arg	Val	Phe	Ala	Glu	Asn	Leu	Arg	Gln 295
Leu 305	Leu	Leu	Ala	Pro	Pro 310	Leu	Gly	Gln	Lys	Arg	Val	Met	Gly	Ile	Asp 315
Pro	Gly	Phe	Arg	Thr	Gly 325	Cys	Lys	Val	Val	Cys	Leu	Asp	Ala	Gln	Gly 330
Asn	Leu	Val	His	Asn	Glu 340	Asn	Ile	Tyr	Pro	His	Pro	Pro	Val	Asp	Lys 345
Lys	Thr	Glu	Ala	Ala	Ser 355	Lys	Leu	Arg	Lys	Met	Ile	Glu	Ala	Tyr	Lys 360
Ile	Glu	Ala	Ile	Ala	Ile 370	Gly	Asn	Gly	Thr	Ala	Ser	Arg	Glu	Thr	Glu 375
Asn 385	Phe	Val	Thr	His	Gln 390	Gln	Phe	Asp	Arg	Pro	Val	Gln	Val	Phe	Val 395
Val	Ser	Glu	Gln	Gly	Ala 405	Ser	Ile	Tyr	Ser	Ala	Ser	Lys	Thr	Ala	Arg 410
Asp	Glu	Phe	Pro	Asp	Tyr 420	Asp	Val	Thr	Val	Arg	Gly	Ala	Val	Ser	Ile 425
Ala	Arg	Arg	Leu	Met	Asp 435	Pro	Leu	Ala	Glu	Leu	Val	Lys	Ile	Asp	Pro 440
Lys	Ser	Ile	Gly	Val	Gly 450	Gln	Tyr	Gln	His	Asp	Val	Asp	Gln	Thr	Lys 455
Leu 465	Lys	Lys	Ser	Leu	Asp 470	Gln	Thr	Val	Glu	Asn	Cys	Val	Asn	Gln	Val 475
Gly	Val	Asn	Leu	Asn	Thr 485	Ala	Ser	Ser	His	Leu	Leu	Thr	Tyr	Ile	Ser 490
Gly	Leu	Gly	Pro	Gln	Leu 500	Ala	Gln	Asn	Ile	Val	Ala	Tyr	Arg	Ala	Ala 505
Asn	Gly	Ala	Phe	Ala	Ser 510	Arg	Lys	Glu	Leu	Met	Lys	Val	Pro	Arg	Met 515

515 520 525
 Gly Ala Lys Ala Phe Glu Gln Cys Ala Gly Phe Leu Arg Ile Ala Gly
 530 535 540
 Gly Glu Asn Pro Leu Asp Asn Thr Ala Val His Pro Glu Ser Tyr Gly
 545 550 555 560
 Ile Val Gln Gln Met Ala Lys Asp Leu Ser Cys Thr Val Pro Gln Leu
 565 570 575
 Ile Ala Asp Lys Ser Leu Arg Thr Arg Ile Glu Met Glu Lys Tyr Ile
 580 585 590
 Thr Pro Thr Val Gly Leu Pro Thr Leu Lys Asp Ile Leu Gln Glu Leu
 595 600 605
 Asp Lys Pro Gly Arg Asp Pro Arg Asp Thr Ile Gln Val Phe Glu Phe
 610 615 620
 Asp Arg Asn Val Arg Thr Ile Asn Asp Leu Arg Glu Gly Met Thr Leu
 625 630 635 640
 Pro Gly Ile Val Ser Asn Ile Thr Asn Phe Gly Ala Phe Val Asp Ile
 645 650 655
 Gly Ile Lys Glu Asn Gly Leu Val His Leu Ser Gln Leu Ala Asn Arg
 660 665 670
 Phe Ile Thr Asp Pro Thr Glu Val Val Ser Ile His Gln His Val Thr
 675 680 685
 Val Lys Val Leu Ser Ile Asp Leu Glu Arg Lys Arg Ile Gln Leu Thr
 690 695 700
 Met Lys Glu Glu
 705

<210> 10228
 <211> 108
 <212> PRT
 <213> B.fragilis

<400> 10228
 Ala Thr Asn Val Arg Asn Lys Ser Ala Ile Thr Ile Asn Phe Tyr Tyr
 1 5 10 15
 Leu Cys Gly His Lys Lys Thr Asp Thr His Thr Leu Lys Gln Met Asn
 20 25 30
 Met Pro Val Ser Phe Lys Tyr Ile Leu Tyr Leu Leu Leu Val Ile
 35 40 45
 Gly Cys Cys Pro Pro Met Ala Gly His Ala Ala Thr Gly Glu Lys Pro
 50 55 60
 Ile Leu Met Ile Cys Ser Tyr Asn Pro Gly Ala Tyr Pro Thr Ser Ala
 65 70 75 80
 Asn Val Ser Asp Phe Met Asp Glu Tyr Gln Arg Leu Gly Gly Lys Arg
 85 90 95
 Gly Val Val Ile Glu Asp Ser His His Arg Gly Cys
 100 105

<210> 10229
 <211> 277
 <212> PRT
 <213> B.fragilis

<400> 10229
 Arg His Ile Val Cys Val Asp Ser Asn Gln Ser Trp Arg Ile Val Ser
 1 5 10 15
 Asp Lys Ala Ala Asp Trp Val Glu Val Ser Glu Pro Glu Leu Leu Gln
 20 25 30
 Gly His Tyr Asp Gly Arg Phe Thr Val Lys Val His Ser Asn Ala Gly
 35 40 45

Tyr Arg Val Arg Gly Gly Phe Pro Ala Ala Arg His Thr Val Leu Ser
 50 55 60
 Leu Val Asn Asp Thr Gly Val Val Arg Asp Ile Leu Ile Tyr Gln Gly
 65 70 75 80
 Gly Tyr Val Arg Ile Arg Gly Lys Tyr Trp Leu Asp Arg Asn Leu Ala
 85 90 95
 Ala Gly Gly Lys Leu Ala Gln Val Ala Ile Pro Leu Gly Leu Glu Val
 100 105 110
 Asp Thr Thr Leu Asn Arg Gly Thr Tyr Phe Gln Phe Gly Cys Pro Thr
 115 120 125
 Asp Arg Trp Glu Glu Asn Phe Met Pro Cys Arg Gly Ser Trp Tyr Asp
 130 135 140
 Gly Thr Ala Glu Ser Pro Ala Arg Ile Asn Glu Leu Asp Pro Ser Pro
 145 150 155 160
 Glu Gly Trp Arg Leu Pro Ser Arg Ile Glu Met Glu Ala Leu Met Asn
 165 170 175
 Ser Pro Ala Ala Pro Met Glu Leu Gln Arg Glu Glu Asp Arg Thr Asn
 180 185 190
 Ile Cys Leu Leu Ser Asp Asp Gly Val Pro Val Tyr Leu Pro Leu Cys
 195 200 205
 Gly His Arg Ser His Ile Asn Gly Cys Arg Ile Val Ile Pro His Gly
 210 215 220
 His Arg Tyr Trp Thr Gly Ser Ser Gln Ser Pro Val Tyr Gly Tyr Ser
 225 230 235 240
 Leu Cys Val Glu Pro Ser Arg Gln Met Tyr Leu Met His Asp Met Lys
 245 250 255
 Lys Tyr Gly Phe Pro Val Arg Ser Ile Phe Asn Asp Glu Arg Gln Met
 260 265 270
 Val Asn Asp Lys Leu
 275

<210> 10230

<211> 304

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (304)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10230

Gly Lys Met Thr His Arg Ile Gln Gln Glu Ser Ile Lys Arg Arg Leu
 1 5 10 15
 Ala Lys Leu Ala Ala Pro Ile Phe Ile Glu Thr Leu Leu Ile Met Met
 20 25 30
 Leu Gly Ala Val Asp Thr Ile Met Leu Ser Arg His Ser Asp Asn Ser
 35 40 45
 Val Ala Ala Val Gly Val Val Asn Gln Ile Ile Met Leu Thr Phe Leu
 50 55 60
 Val Phe Glu Val Ile Asn Leu Gly Thr Ser Val Leu Cys Ser Gln Tyr
 65 70 75 80
 Leu Gly Ala Arg Leu Glu Lys Lys Val Val Gln Val Val Gly Val Ser
 85 90 95
 Leu Leu Val Asn Leu Leu Val Gly Gly Ile Ile Ser Leu Ile Leu Phe
 100 105 110
 Thr Met Ala Arg Thr Ile Leu Gln Trp Met Gly Leu Gly Pro Glu Leu
 115 120 125
 Met Ala Asp Gly Met Asp Tyr Met Arg Ile Val Gly Ala Phe Ala Phe

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<210> 10231
<211> 257
<212> PRT
<213> B.fragilis
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<400>	10231															
Lys	Gln	Lys	Thr	Met	Asn	Lys	Glu	Val	Asp	Leu	Ser	Val	Ser	Cys	Leu	
1				5					10					15		
Gly	Lys	Val	Lys	Glu	Leu	Lys	Tyr	Asp	Val	Ile	Ile	Leu	Pro	Trp	Gly	
			20					25					30			
Ala	Thr	Glu	Pro	His	Asn	Leu	His	Leu	Pro	Tyr	Leu	Thr	Asp	Cys	Ile	
		35					40					45				
Leu	Pro	His	Asp	Ile	Ala	Val	Glu	Ala	Ala	Glu	Leu	Ala	Leu	Ser	Arg	
	50					55					60					
Ser	Gly	Val	Arg	Cys	Met	Val	Met	Pro	Pro	Val	Pro	Phe	Gly	Ala	His	
65					70					75					80	
Asn	Pro	Gly	Gln	Arg	Glu	Leu	Pro	Phe	Cys	Ile	His	Thr	Arg	Tyr	Ala	
				85					90					95		
Thr	Gln	Gln	Ala	Ile	Leu	Glu	Asp	Ile	Val	Ser	Ser	Leu	His	Val	Gln	
			100					105					110			
Gly	Phe	Arg	Lys	Leu	Leu	Ile	Leu	Ser	Gly	His	Gly	Gly	Asn	Asn	Phe	
		115					120					125				
Lys	Gly	Met	Ile	Arg	Asp	Leu	Ala	Phe	Glu	Tyr	Pro	Asp	Phe	Leu	Ile	
	130					135					140					
Ala	Ala	Ala	Asn	Trp	Phe	Glu	Val	Val	Ser	Pro	Lys	Gly	Tyr	Phe	Glu	
145					150					155					160	
Ala	Glu	Ile	Asp	Asp	His	Ala	Gly	Glu	Ser	Glu	Thr	Ser	Val	Met	Met	
				165					170					175		
His	Tyr	His	Pro	Glu	Leu	Val	Asn	Leu	Ala	Glu	Ala	Gly	Asp	Gly	Glu	
			180					185					190			
Ser	Lys	Pro	Phe	Ala	Ile	Ala	Ser	Leu	Asn	Glu	Lys	Val	Ala	Trp	Val	
		195					200					205				
Pro	Arg	His	Trp	Asp	Lys	Ala	Thr	Val	Asp	Ser	Gly	Val	Gly	Asn	Pro	
	210					215					220					
Lys	Lys	Ala	Thr	Ala	Glu	Lys	Gly	Glu	Arg	Tyr	Val	Lys	Pro	Ile	Val	
225					230					235					240	
Glu	Lys	Leu	Ala	Gly	Leu	Phe	Glu	Glu	Met	Ala	Gln	His	Asp	Leu	Tyr	

245

250

255

Glu

<210> 10232

<211> 118

<212> PRT

<213> B.fragilis

<400> 10232

Asn	Asn	Met	Ala	Glu	Glu	Leu	Thr	Phe	Ile	Ser	Gly	Ser	Lys	Glu	Glu
1				5					10					15	
His	Tyr	Leu	Ser	Leu	Leu	Pro	Gln	Val	Arg	Ser	Leu	Ile	Glu	Gly	Glu
			20					25					30		
Val	Asp	Leu	Val	Ala	Asn	Leu	Ala	Asn	Val	Ala	Ala	Ala	Leu	Lys	Glu
			35				40					45			
Ala	Phe	Asp	Phe	Phe	Trp	Val	Gly	Phe	Tyr	Leu	Val	Lys	His	Asp	Gln
	50					55					60				
Leu	Val	Leu	Gly	Pro	Phe	Gln	Gly	Ser	Gly	Ala	Cys	Thr	Arg	Ile	Pro
65					70					75				80	
Lys	Gly	Lys	Gly	Val	Trp	Gly	Thr	Ala	Trp	His	Glu	Gly	Ala	Thr	Leu
				85				90						95	
Leu	Val	Pro	Asp	Val	Glu	Ile	Phe	Pro	Gly	Gln	Ile	Ala	Leu	Glu	Ile
			100					105						110	
Cys	Phe	Pro	Asp	Arg	Lys										
			115												

<210> 10233

<211> 66

<212> PRT

<213> B.fragilis

<400> 10233

Glu	Phe	Lys	Asn	Ile	Phe	Leu	Leu	Lys	Gly	Ala	Cys	Arg	Lys	Lys	Ser
1			5						10					15	
Pro	Phe	Ile	Leu	Leu	Arg	Met	Thr	Thr	Thr	Gly	Met	Asp	Gly	Lys	Ala
			20					25					30		
Thr	Val	Ile	Leu	His	Asn	Tyr	Glu	Asp	Lys	Lys	Tyr	Pro	Ala	Val	Leu
		35					40				45				
His	Gly	Asn	Arg	Leu	Trp	Leu	Arg	Pro	Tyr	Glu	Ala	Ile	Ala	Trp	Lys
	50					55					60				
Leu	Thr														
65															

<210> 10234

<211> 152

<212> PRT

<213> B.fragilis

<400> 10234

Lys	Leu	Tyr	Asp	Met	Lys	Thr	Leu	Thr	Phe	Lys	Tyr	Leu	Lys	Leu	Phe
1				5					10					15	
Leu	Leu	Ala	Val	Ala	Met	Ile	Asn	Leu	Thr	Ser	Cys	Glu	Ile	Glu	Ile
			20					25					30		
Asp	Asp	Phe	Tyr	Asp	Asp	Asp	Asn	Ile	Gly	Gly	Ser	Tyr	Tyr	Asn	Lys
		35					40					45			
Ser	Leu	Asp	Leu	Cys	Ser	Arg	Pro	Trp	Ala	Asp	Thr	Phe	Tyr	Asp	Ala
	50					55					60				
Asp	Gly	Asn	Tyr	Cys	Tyr	Gln	Glu	Leu	Asn	Phe	Tyr	Leu	Asp	Arg	His

65		70		75		80									
Gly	Glu	Asp	Tyr	Ile	Arg	Val	Glu	Tyr	Pro	Asn	Gly	Arg	Tyr	Ser	Glu
				85					90					95	
Ser	Val	Tyr	Ser	Phe	Thr	Trp	Asn	Trp	Glu	Asp	Arg	Ser	Gln	Tyr	Ser
			100					105					110		
Leu	Arg	Met	Val	Tyr	Gly	Pro	Gly	Asp	Val	Ser	Tyr	Leu	Asp	Asp	Val
		115					120					125			
Trp	Ile	Arg	Gly	Asn	Val	Leu	Ser	Gly	Tyr	Leu	Asp	Gly	His	Asp	Asn
	130					135					140				
Tyr	Val	Asp	Phe	Thr	Gly	Val	Arg								
145					150										

<210> 10235
 <211> 160
 <212> PRT
 <213> B.fragilis

<400> 10235															
Ile	Asp	His	Trp	Arg	Ser	Pro	Ser	Ser	Pro	Val	Val	Lys	Thr	Thr	Ala
1				5					10					15	
Met	Trp	Phe	Asn	Cys	Ala	Gly	Arg	His	Tyr	Arg	Arg	Trp	Arg	Cys	Pro
			20					25					30		
Ala	Gly	Asn	Arg	Val	Thr	Gly	Leu	Phe	Leu	Arg	Gln	Glu	Thr	Asp	Ser
		35					40					45			
Phe	Val	Leu	Gln	Thr	Asp	Ile	Gln	Arg	Leu	Gln	Gln	Val	Leu	Ile	Asn
	50					55					60				
Leu	Leu	Thr	Asn	Ala	Ala	Lys	Phe	Thr	Lys	Asn	Gly	Thr	Ile	Thr	Leu
65				70					75					80	
Gln	Phe	Glu	Val	Glu	Lys	Glu	Lys	Asn	Arg	Val	Leu	Phe	Ala	Val	Ala
				85					90					95	
Asp	Thr	Gly	Cys	Gly	Ile	Pro	Lys	Glu	Lys	Gln	Lys	Gln	Val	Phe	Glu
			100					105					110		
Arg	Phe	Glu	Lys	Leu	Asn	Glu	Tyr	Ala	Gln	Gly	Thr	Gly	Leu	Gly	Leu
		115				120						125			
Ser	Ile	Cys	Lys	Leu	Thr	Val	Asp	Lys	Trp	Gly	Gly	Asp	Ile	Trp	Ile
	130					135					140				
Asp	Pro	Asp	Tyr	Glu	Gly	Ala	Arg	Phe	Val	Val	Ser	His	Pro	Leu	
145					150				155					160	

<210> 10236
 <211> 463
 <212> PRT
 <213> B.fragilis

<400> 10236															
Arg	Lys	Arg	Leu	Phe	Tyr	Cys	Ile	Leu	Val	Met	Asn	Asp	Lys	Tyr	Glu
1				5					10					15	
Glu	Arg	Leu	Gly	Thr	Asp	Arg	Met	Leu	Pro	Leu	Val	Phe	Arg	Met	Ala
			20					25					30		
Leu	Pro	Ala	Val	Ile	Ala	Gln	Ile	Val	Asn	Leu	Leu	Tyr	Asn	Ile	Val
		35					40					45			
Asp	Arg	Ile	Tyr	Ile	Gly	His	Ile	Pro	Gly	Ile	Gly	Thr	Gln	Ala	Leu
	50					55					60				
Ala	Gly	Ile	Gly	Val	Ala	Gly	Ser	Leu	Ile	Ile	Leu	Ile	Ser	Ala	Phe
65				70					75					80	
Ser	Ala	Ile	Val	Ala	Gly	Gly	Gly	Ala	Pro	Leu	Ala	Ala	Ile	Ala	Leu
				85					90					95	
Gly	Gln	Gly	Asn	Arg	Thr	His	Ala	Glu	Lys	Ile	Leu	Gly	Asn	Gly	Phe
			100					105					110		

Val Leu Leu Leu Phe Phe Thr Leu Leu Thr Ser Gly Leu Ser Tyr Leu
 115 120 125
 Phe Met Glu Pro Ile Leu Leu Phe Thr Gly Ala Ser Glu Gln Thr Leu
 130 135 140
 Gly Tyr Ala Thr Ala Tyr Leu Ser Ile Tyr Leu Ile Gly Thr Leu Phe
 145 150 155 160
 Val Glu Val Ser Val Gly Leu Asn Thr Phe Ile Asn Thr Gln Gly Arg
 165 170 175
 Pro Gly Ile Ala Met Leu Ser Ile Val Ile Gly Ala Leu Leu Asn Ile
 180 185 190
 Leu Leu Asp Pro Leu Phe Ile Phe Val Phe Asp Trp Gly Val Lys Gly
 195 200 205
 Ala Ala Leu Ala Thr Ile Ile Ser Gln Ala Cys Ser Ala Gly Trp Val
 210 215 220
 Leu Phe Phe Leu Thr Ser Arg Arg Ala Ser Leu Arg Leu Glu Pro Arg
 225 230 235 240
 Tyr Met Arg Leu Asp Arg Lys Val Val Gly Ala Ile Leu Ala Leu Gly
 245 250 255
 Ala Ser Pro Phe Ile Met Ala Ser Thr Glu Ser Leu Val Gly Phe Val
 260 265 270
 Leu Asn Gly Ser Leu Lys Thr Phe Gly Asp Ile Tyr Val Ser Ala Leu
 275 280 285
 Thr Ile Met Gln Ser Ala Met Leu Phe Val Ser Val Pro Leu Ala Gly
 290 295 300
 Phe Ala Leu Gly Phe Val Pro Ile Val Ser Tyr Asn Tyr Gly His Gly
 305 310 315 320
 Asn Arg Glu Arg Val Lys Glu Cys Phe Lys Ile Val Met Thr Phe Met
 325 330 335
 Phe Leu Phe Asn Leu Val Leu Ile Leu Leu Met Ile Leu Phe Pro Ser
 340 345 350
 Val Ile Ala Ser Ala Phe Thr Ser Asp Glu Lys Leu Ile Glu Thr Val
 355 360 365
 Val Gln Val Met Pro Val Phe Leu Ala Gly Met Thr Ile Phe Gly Leu
 370 375 380
 Gln Arg Ala Cys Gln Asn Met Phe Val Ala Leu Gly Gln Ala Lys Val
 385 390 395 400
 Ser Ile Phe Ile Ala Leu Leu Arg Lys Val Ile Leu Leu Ile Pro Leu
 405 410 415
 Ala Leu Met Leu Pro Tyr Leu Met Gly Val Met Gly Val Tyr Ala Ala
 420 425 430
 Glu Ala Ile Ser Asp Ala Ala Ala Ile Cys Cys Thr Val Ile Phe
 435 440 445
 Ala Val Gln Phe Pro Arg Ile Met Asn Lys Leu Thr Val Arg Ser
 450 455 460

<210> 10237

<211> 583

<212> PRT

<213> B.fragilis

<400> 10237

Asn Met Ile Met Met Lys Arg Leu Ile Cys Met Tyr Ala Phe Leu Leu
 1 5 10 15
 Cys Leu Val Cys Val Leu Pro Ala Gln Glu Arg Glu Val Lys Leu Lys
 20 25 30
 Ile Val Gln Thr Ser Asp Val His Gly Asn Tyr Phe Pro Tyr Asn Phe
 35 40 45
 Ile Thr Gln Lys Glu Trp Gly Gly Ser Leu Ala Arg Val Tyr Ala Leu
 50 55 60

Val	Gln	Lys	Asn	Arg	Glu	Val	Tyr	Lys	Gly	Asn	Leu	Ile	Leu	Leu	Asp
65					70					75					80
Asn	Gly	Asp	Ile	Leu	Gln	Gly	Gln	Pro	Ser	Ala	Tyr	Tyr	Tyr	Asn	Tyr
			85						90					95	
Ile	Asp	Thr	Val	Ala	Pro	His	Val	Cys	Ala	Glu	Met	Met	Asn	Phe	Met
			100					105					110		
Gly	Tyr	Asp	Ala	Gly	Asn	Met	Gly	Asn	His	Asp	Val	Glu	Thr	Gly	Arg
		115					120					125			
Ala	Val	Phe	Asp	Arg	Trp	Ile	Gly	Glu	Cys	Asn	Phe	Pro	Val	Leu	Gly
		130				135					140				
Ala	Asn	Ile	Val	Glu	Thr	Ala	Thr	Gly	Glu	Thr	His	Leu	Pro	Pro	Tyr
145					150					155					160
Arg	Val	Leu	Glu	Arg	Asp	Gly	Val	Lys	Ile	Val	Val	Leu	Gly	Met	Ile
				165					170					175	
Thr	Pro	Ala	Ile	Pro	Ala	Trp	Leu	Ser	Glu	Asn	Leu	Trp	Gln	Gly	Leu
			180					185					190		
Arg	Phe	Asp	Asp	Met	Glu	Glu	Thr	Ala	Arg	Lys	Trp	Met	Lys	Val	Ile
		195					200					205			
Arg	Glu	Lys	Glu	Asn	Pro	Asp	Leu	Val	Ile	Gly	Leu	Phe	His	Ala	Gly
		210				215					220				
Gln	Asp	Ala	Phe	Val	Met	Ser	Gly	Arg	Tyr	Asn	Glu	Asn	Ala	Ser	Leu
225					230					235					240
Asn	Val	Ala	Lys	Asn	Val	Pro	Gly	Phe	Asp	Met	Val	Leu	Met	Gly	His
				245					250					255	
Asp	His	Ala	Arg	Glu	Cys	Lys	Lys	Val	Val	Asn	Val	Ala	Gly	Asp	Ser
			260					265					270		
Val	Leu	Val	Ile	Asp	Pro	Ala	Ser	Asn	Gly	Ile	Val	Val	Ser	Asp	Ile
		275					280					285			
Asp	Val	Thr	Leu	Lys	Leu	Lys	Asp	Gly	Lys	Val	Val	Ser	Lys	Gln	Ile
		290				295					300				
Asp	Gly	Val	Leu	Thr	Asp	Thr	Lys	Glu	Tyr	Gly	Val	Ser	Glu	Ser	Phe
305					310					315					320
Met	Arg	His	Phe	Ala	Leu	Gln	Tyr	Gly	Ala	Val	Glu	Lys	Phe	Val	Ser
				325					330					335	
Lys	Lys	Ile	Gly	Val	Phe	Thr	Glu	Asp	Leu	Ser	Thr	Arg	Pro	Ala	Tyr
			340					345					350		
Phe	Gly	Ser	Ser	Ala	Phe	Ile	Asp	Phe	Ile	His	Ser	Leu	Gln	Leu	Asp
		355					360					365			
Ile	Ser	Gly	Ala	Asp	Ile	Ser	Phe	Ala	Ala	Pro	Leu	Ser	Phe	Asp	Ala
		370				375					380				
Glu	Ile	Lys	Lys	Gly	Asp	Ile	Arg	Val	Ser	Asp	Met	Phe	Asn	Leu	Tyr
385					390					395					400
Lys	Tyr	Glu	Asn	Met	Leu	Tyr	Val	Met	Lys	Leu	Ser	Gly	Lys	Glu	Ile
			405						410					415	
Lys	Asp	Phe</													

530		535		540											
Tyr	Ile	Glu	Lys	Lys	Gly	Thr	Leu	Asp	Pro	Arg	Ala	Leu	Asn	Gln	Trp
545				550					555						560
Lys	Phe	Val	Pro	Glu	Glu	Trp	Val	Lys	Pro	Ala	Ala	Gln	Arg	Asp	Tyr
				565					570					575	
Glu	Tyr	Leu	Phe	Gly	Gly	Lys									
				580											

<210> 10238

<211> 112

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (5)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10238

Val	Gly	His	Ile	Xaa	Lys	Ile	Leu	Leu	Ser	Phe	Leu	Leu	Leu	Thr	Leu
1				5					10					15	
Phe	Val	Thr	Tyr	Gln	Val	Ser	Ile	Thr	Met	Phe	Thr	His	Val	His	Tyr
			20					25					30		
Val	Asn	Gly	Val	Met	Ile	Ala	His	Ser	His	Pro	Tyr	Lys	Gly	Thr	His
		35					40					45			
Ser	His	Thr	Ala	Ser	Asn	Ile	Val	Ile	Ala	His	Phe	Ala	Ala	Phe	
	50					55				60					
His	Ser	Leu	Glu	Val	Asp	Val	His	Tyr	Asp	Phe	Thr	Pro	Glu	Arg	Pro
65					70				75					80	
Ile	Leu	Phe	Thr	Val	Glu	Ile	Pro	Glu	Ser	Ile	Pro	Val	Thr	Ala	Gly
			85					90					95		
Thr	His	Leu	Gln	Val	Ile	Ser	Leu	Arg	Ala	Pro	Pro	Ala	Glu	Leu	Ala
			100					105					110		

<210> 10239

<211> 766

<212> PRT

<213> B.fragilis

<400> 10239

Gln	Lys	Arg	Met	Lys	His	Tyr	Ile	Val	Met	Leu	Val	Leu	Ala	Cys	Val
1				5					10					15	
Ser	Met	Ser	Ser	Tyr	Ala	Val	Asn	Pro	Ile	Lys	Glu	Gly	Asn	Met	Ile
			20					25					30		
Ala	Gly	His	Val	Ile	Val	Lys	Gly	Thr	Glu	Glu	Gly	Ile	Pro	Phe	Ala
		35					40					45			
Thr	Val	Met	Ile	Leu	Gly	Thr	Asn	Arg	Gly	Ala	Val	Ser	Asn	Glu	Glu
	50					55				60					
Gly	Gln	Phe	Glu	Phe	Arg	Lys	Leu	Ala	Ala	Gly	Lys	Tyr	Thr	Leu	Arg
65					70				75					80	
Val	Gln	Val	Met	Gly	Tyr	Lys	Thr	Gln	Glu	Lys	Thr	Ile	Thr	Val	Ser
				85				90					95		
Ala	Glu	Ala	Thr	Ser	Val	Val	His	Phe	Gln	Met	Glu	Glu	Val	Ser	Phe
			100					105					110		
Thr	Thr	Asp	Glu	Val	Val	Val	Ser	Ala	Asn	Arg	Asn	Glu	Val	Ser	Arg
		115					120					125			
Lys	Ala	Ala	Pro	Val	Val	Val	Asn	Val	Met	Ser	Ala	Lys	Leu	Phe	Glu
	130						135				140				
Thr	Val	Asn	Ser	Thr	Asp	Leu	Ala	Lys	Ser	Leu	Asn	Phe	Gln	Ser	Gly

145	150	155	160
Leu Arg Val Glu Asn	Asn Cys Gln Asn Cys Gly Phe Pro Gln Val Arg		
	165	170	175
Ile Asn Gly Leu Glu Gly Pro Tyr Ser Gln Ile Leu Ile Asn Ser Arg			
	180	185	190
Pro Ile Ile Ser Ala Leu Ser Gly Val Tyr Gly Leu Glu Gln Ile Pro			
	195	200	205
Val Asn Met Ile Glu Arg Val Glu Val Val Arg Gly Gly Gly Ser Ala			
	210	215	220
Leu Phe Gly Ala Asn Ala Val Gly Gly Thr Ile Asn Ile Ile Thr Lys			
	225	230	235
Asp Pro Ile Asn Asn Ser Phe Gln Val Ala Ser Thr Met Ser Asn Met			
	245	250	255
Asn Gly Lys Ser Trp Glu Gln Tyr Met Gly Gly Asn Val Ser Leu Val			
	260	265	270
Ala Lys Asp Asn Ser Tyr Gly Ile Ala Leu Tyr Glu Thr Tyr Arg Asn			
	275	280	285
Arg Asn Pro Tyr Asp Ala Asp Gly Asp Gly Phe Ser Glu Leu Gly Lys			
	290	295	300
Leu Asn Met Asn Thr Phe Gly Met Arg Ala Tyr Tyr Arg Pro Asn Tyr			
	305	310	315
Phe Ser Arg Ile Asn Val Glu Tyr His Thr Thr Asn Glu Phe Arg Arg			
	325	330	335
Gly Gly Asn Lys Phe Asn Leu Gln Pro His Glu Ala Asp Ile Thr Glu			
	340	345	350
Gln Thr Lys His Ile Ile Asn Ser Gly Gly Val Ser Tyr Asp Arg Tyr			
	355	360	365
Trp Gly Glu Lys His Lys Met Ser Val Tyr Gly Ser Ile Gln His Thr			
	370	375	380
Asp Arg Asn Ser Tyr Tyr Gly Ala Gln Lys Asp Met Asn Ala Tyr Gly			
	385	390	395
Lys Thr Asn Asp Leu Thr Trp Val Val Gly Gly Met Tyr Val Gly Asn			
	405	410	415
Met Asp Arg Cys Leu Phe Ala Pro Ala Thr Phe Thr Gly Gly Val Glu			
	420	425	430
Tyr Gln Ser Asn Ser Leu His Asp Val Met Thr Gly Tyr His Arg Asp			
	435	440	445
Met Gln Gln Asp Val Arg Ile Ala Gly Gly Phe Val Gln Asn Glu Trp			
	450	455	460
Arg Leu Asn Arg Trp Thr Met Leu Val Gly Ala Arg Leu Asp Lys His			
	465	470	475
Asn Leu Ile Asp His Pro Ile Phe Ser Pro Arg Val Asn Phe Leu Tyr			
	485	490	495
Lys Pro Ser Asp Asn Leu Gln Ala Arg Leu Thr Tyr Ser Thr Gly Phe			
	500	505	510
Arg Ala Pro Gln Ala Tyr Asp Glu Asp Leu His Val Thr Ala Val Gly			
	515	520	525
Gly Glu Gly Val Gln Ile Arg Leu Ala Asp Gly Leu Arg Glu Glu Arg			
	530	535	540
Ser Asn Ser Phe Ser Gly Ser Val Asp Trp Ser Phe Pro Met Gly His			
	545	550	555
Trp Gln Ser Asn Ile Leu Leu Glu Gly Phe Tyr Thr Asp Leu His His			
	565	570	575
Val Phe Val Leu Glu Asp Ile Gly Glu Asp Gln Asn Gly Asp Lys Ile			
	580	585	590
Lys Glu Arg Arg Asn Gly Ser Gly Ala Lys Val Tyr Gly Val Asn Leu			
	595	600	605
Asp Ala Lys Val Ala His Gly Arg Glu Ala Gln Leu Gln Leu Gly Phe			
	610	615	620

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<210> 10240
<211> 224
<212> PRT
<213> B.fragilis
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<210> 10241
<211> 653
<212> PRT
<213> B.fragilis
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<400> 10241

Arg	Arg	Glu	Pro	Leu	Asp	Gln	Val	Thr	Pro	Glu	Ser	Tyr	Phe	Gln	Asn
1				5					10					15	
Ala	Asp	His	Leu	Ala	Ala	Tyr	Ser	Ile	Ser	Lys	Tyr	Gln	Asn	Leu	Phe
			20					25					30		
Ser	Thr	His	Ser	Gly	Phe	Ser	Ala	Gly	Thr	Val	Asn	Asn	Asp	Gly	Ala
		35					40					45			
Thr	Asp	Asn	Met	Val	Ser	Gly	Gly	Ser	Ser	Gly	Ser	Gly	Leu	Gln	Asn
	50					55					60				
Tyr	Tyr	Thr	Lys	Asp	Val	Trp	Lys	Thr	Glu	Ala	Asn	Asp	Asn	Trp	
65					70				75					80	
Asp	Phe	Ser	Phe	Phe	Arg	Tyr	Cys	Asn	Tyr	Phe	Phe	Glu	Lys	Val	Leu
			85					90					95		
Pro	Lys	Tyr	Glu	Ala	Gly	Glu	Ile	Ser	Gly	Asn	Ala	Asp	Asp	Val	Lys
			100					105					110		
His	Tyr	Ile	Gly	Glu	Met	Tyr	Phe	Ile	Arg	Ala	Trp	Lys	Tyr	Phe	Gln
		115					120					125			
Lys	Leu	Arg	Met	Tyr	Gly	Asp	Tyr	Pro	Ile	Ile	Thr	Glu	Val	Leu	Pro
	130					135					140				
Asp	Asn	Ala	Glu	Ile	Leu	Ile	Glu	Lys	Gly	Val	Arg	Gln	Pro	Arg	Asn
145					150					155				160	
Lys	Val	Ala	Arg	Phe	Ile	Leu	Glu	Asp	Leu	Asp	Lys	Ala	Ala	Glu	Tyr
				165				170						175	
Met	His	Asp	His	Gly	Phe	Ala	Gly	Asn	Asn	Arg	Leu	Asn	Lys	Gln	Cys
			180					185					190		
Ala	Leu	Leu	Ile	Lys	Ser	Arg	Val	Ala	Leu	Tyr	Glu	Ala	Thr	Phe	Glu
		195					200					205			
Lys	Tyr	His	Gln	Gly	Thr	Gly	Arg	Val	Pro	Gly	Asp	Ala	Asn	Trp	Pro
	210					215					220				
Gly	Lys	Arg	Val	His	Pro	Asp	Tyr	Lys	Tyr	Asp	Ala	Asn	Thr	Glu	Ile
225					230					235				240	
Asn	Phe	Phe	Leu	Asp	Gln	Ala	Met	Ser	Ala	Ala	Glu	Gln	Val	Ala	Asp
			245					250						255	
Val	Ile	Lys	Leu	Thr	Pro	Asn	Ser	Gly	Val	Phe	Asn	Pro	Ala	Asn	Asp
			260					265					270		
Asn	Asp	Ile	Ser	Gly	Trp	Asn	Asp	Tyr	Phe	Asp	Met	Phe	Ser	Ala	Glu
	275					280						285			
Asp	Met	Ser	Gly	Phe	Glu	Glu	Val	Leu	Phe	Trp	Arg	Asp	Tyr	Tyr	Ser
	290					295					300				
Gly	Asp	Phe	Thr	Ile	Ala	His	Gly	Ala	Thr	Ala	Tyr	Val	Ala	Ser	Gly
305					310					315				320	
Gly	Asn	Asn	Gly	Met	Leu	His	Asn	Tyr	Val	Gln	Ser	Phe	Leu	Met	Lys
			325					330						335	
Asp	Gly	Met	Pro	Trp	Tyr	Ala	Ala	Thr	Ala	Ala	Tyr	Pro	Phe	Lys	Gly
		340						345					350		
Asp	Glu	Arg	Val	Met	Asp	Glu	Lys	Ala	Asn	Arg	Asp	Glu	Arg	Leu	Gln
		355					360					365			
Leu	Phe	Leu	Phe	Gly	Glu	Glu	Asp	Met	Ile	Pro	Ala	Val	Ser	Asn	Ala
	370					375					380				
Ala	Thr	Asn	Ala	Met	Lys	Thr	Tyr	Gln	Asp	Ala	Asn	Tyr	Pro	Asn	Ile
385					390					395				400	
Ile	Val	Ala	Glu	Ser	Glu	Ile	Lys	Asp	Leu	Thr	Gly	Tyr	Arg	Ile	Arg
			405						410					415	
Lys	Cys	Leu	Ser	Tyr	Asp	Gln	Lys	Gln	Tyr	Val	Ser	Gly	Gln	Ala	Gln
			420					425					430		
Ser	Thr	Thr	Gly	Cys	Val	Ile	Phe	Arg	Ala	Val	Glu	Ala	Tyr	Leu	Asn
		435					440					445			
Tyr	Met	Glu	Ala	Ala	Cys	Met	Lys	Asn	Asn	Gly	Asn	Val	Thr	Gly	Lys
	450					455						460			

Ala Ala Glu Tyr Trp Arg Ala Val Arg Ile Arg Ala Gly Val Asp Pro
 465 470 475 480
 Asp Phe Thr Lys Thr Ile Ala Ala Thr Asp Leu Ser Lys Glu Asn Asp
 485 490 495
 Leu Ala Lys Tyr Lys Gly Glu Asn Glu Met Ile Asp Val Thr Leu Phe
 500 505 510
 Asn Ile Arg Arg Glu Arg Arg Cys Glu Phe Ile Gly Glu Gly Met Arg
 515 520 525
 Met Asp Asp Leu Ile Arg Trp Arg Ser Leu Tyr Arg Leu Leu Val Glu
 530 535 540
 Arg Phe Ile Pro Glu Gly Phe Asn Phe Trp Gly Ser Asp Ala Tyr Lys
 545 550 555 560
 Arg Tyr Glu Gly Glu Asp Ala Lys Phe Glu Tyr Ile Glu Gly Pro Asp
 565 570 575
 Asn Ala Met Ala Asn Val Ser Ser Arg Lys Leu Ser Asn Tyr Leu Arg
 580 585 590
 Pro Tyr Ser Val Val Gln Lys Asn Asn Glu Ile Tyr Asp Gly Tyr Thr
 595 600 605
 Trp Ala Lys Ala His Tyr Leu Tyr Pro Val Pro Ile Arg Gln Ile Glu
 610 615 620
 Leu Leu Ser Pro Ser Gly Glu Ile Ala Ser Ser Val Ile Tyr Gln Asn
 625 630 635 640
 Pro Tyr Trp Pro Glu Glu Arg Asn Thr Ala Ala Ile Glu
 645 650

<210> 10242

<211> 840

<212> PRT

<213> B.fragilis

<400> 10242

Cys Met Lys Glu Lys Thr Asn Leu Phe Pro Ser Leu Ile Arg Leu Arg
 1 5 10 15
 Glu Thr Ser Arg Leu Lys Met Ala Ile Ala Ala Ser Ile Met Leu Trp
 20 25 30
 Cys Ala Thr Pro Gln Gln Ala Thr Ala Asp Thr Asn Glu Glu His Ala
 35 40 45
 Ile Glu Ala Val Gln Gln Ala Lys Val Lys Val Lys Gly Thr Val Val
 50 55 60
 Asp Glu Thr Gly Glu Pro Met Ile Gly Val Ala Val Lys Val Leu Ala
 65 70 75 80
 Asn Asn Thr Gly Thr Ile Thr Asp Leu Glu Gly Lys Phe Ser Val Glu
 85 90 95
 Ala Pro Leu Gly Gly Ala Ile Gln Ile Ser Phe Ile Gly Tyr Lys Thr
 100 105 110
 Val Thr Val Lys Ala Ser Ser Glu Pro Ile Ser Val Thr Leu Lys Glu
 115 120 125
 Asp Ser Gln Gln Leu Asp Glu Val Val Val Gly Tyr Gly Ser Gln
 130 135 140
 Lys Lys Val Asn Val Thr Gly Ser Val Ser Met Val Asp Ser Lys Val
 145 150 155 160
 Ile Glu Ser Arg Pro Val Gln Asn Val Ser Gln Ala Leu Gln Gly Val
 165 170 175
 Val Pro Gly Leu Asn Met Ser Val Gly Asn Ser Gly Gly Ala Leu Asp
 180 185 190
 Ser Ser Leu Ser Ile Asn Ile Arg Gly Ala Gly Thr Ile Gly Glu Gly
 195 200 205
 Ser Ser Gly Ser Pro Leu Val Leu Ile Asp Gly Ile Glu Gly Asp Met
 210 215 220

Asn	Thr	Val	Asn	Pro	Asn	Asp	Ile	Glu	Asn	Ile	Ser	Val	Leu	Lys	Asp
225					230					235					240
Ala	Ala	Ser	Ser	Ser	Ile	Tyr	Gly	Ala	Arg	Ala	Ser	Phe	Gly	Val	Ile
				245					250					255	
Met	Ile	Thr	Thr	Lys	Ser	Gly	Lys	Ser	Gly	Lys	Thr	Arg	Val	Asn	Tyr
			260					265					270		
Ser	Gly	Asn	Val	Arg	Phe	Ser	Asp	Ala	Ile	Gln	Ile	Pro	Glu	Met	Val
		275					280					285			
Asp	Ser	Tyr	Thr	Phe	Ala	Gln	Tyr	Phe	Asn	Arg	Ala	Asn	Thr	Asn	Asp
	290					295				300					
Gly	Gly	Gly	Leu	Val	Phe	Asp	Glu	Ala	Ala	Leu	Glu	Arg	Ile	Lys	Asn
305					310					315					320
Tyr	Gln	Thr	Gly	Lys	Tyr	Thr	Asp	Pro	Asn	Thr	Pro	Glu	Tyr	Tyr	Gly
			325						330					335	
Ala	Lys	Ala	Gly	Asn	Asp	Gly	Lys	Trp	Gln	Asn	Tyr	Thr	Gly	Ser	Phe
			340					345					350		
Ala	Asn	Thr	Asp	Trp	Phe	Lys	Glu	Phe	Tyr	Lys	Asn	Trp	Val	Pro	Ser
		355					360					365			
Thr	Glu	His	Asn	Leu	Asn	Ile	Ser	Gly	Gly	Thr	Asp	Lys	Leu	Thr	Tyr
	370					375					380				
Met	Ile	Ser	Gly	Ser	Phe	Leu	Asp	Gln	Lys	Gly	Leu	Leu	Arg	His	Gly
385					390					395					400
Glu	Asp	Gln	Phe	Asn	Arg	Tyr	Thr	Met	Asn	Ala	Lys	Ile	Ser	Ala	Lys
				405					410					415	
Leu	Thr	Asp	Trp	Val	Thr	Leu	Asn	Tyr	Thr	Ser	Lys	Trp	Thr	Arg	Glu
			420					425					430		
Asp	Tyr	Asp	Arg	Pro	Thr	Tyr	Met	Thr	Gly	Leu	Phe	Phe	His	Asn	Ile
		435					440					445			
Ala	Arg	Arg	Trp	Pro	Thr	Cys	Pro	Val	Arg	Asp	Pro	Asn	Gly	His	Tyr
	450					455				460					
Gln	Gln	Lys	Met	Glu	Ile	Ile	Glu	Met	Glu	Asp	Gly	Gly	Lys	Gln	Thr
465					470					475					480
Ser	Gln	Lys	Asn	Trp	Tyr	Thr	Gln	Gln	Leu	Gln	Ala	Ile	Phe	Glu	Pro
				485					490					495	
Ile	Lys	Asp	Trp	Arg	Ile	Val	Ala	Glu	Gly	Ser	Met	Arg	Thr	Tyr	Thr
			500					505					510		
Arg	Lys	Gln	Ser	Trp	Ala	Val	Leu	Pro	Ile	Tyr	Ala	Tyr	Asp	Ala	Asp
		515					520					525			
Asn	Gln	Pro	Tyr	Leu	Leu	Gly	Trp	Gly	Asp	Asn	Ala	Ala	Gly	Tyr	Ser
	530					535					540				
Glu	Val	Gln	Asp	Ser	Arg	Glu	Ser	Glu	Asp	Tyr	Phe	Ser	Thr	Asn	Ile
545					550					555					560
Tyr	Thr	Asp	Phe	Ala	Lys	Thr	Phe	Gly	Asp	His	Asn	Phe	Lys	Ile	Met
			565						570					575	
Val	Gly														

690 695 700
 Trp Tyr Pro Phe Tyr Gln Asn Met Pro Thr Gly Ser Ala Ser Ser Gly
 705 710 715 720
 Trp Leu Ile Asn Gly Lys Lys Gln Asn Val Ala Gly Leu Pro Gly Ile
 725 730 735
 Val Ser Ser Leu Met Thr Trp Glu Thr Ile Glu Ser Trp Asn Val Gly
 740 745 750
 Ile Asp Trp Gly Leu Phe Asp Asn Arg Leu Thr Gly Ser Phe Asp Tyr
 755 760 765
 Tyr Asn Arg Tyr Thr Tyr Asp Met Ile Gly Pro Ala Pro Thr Leu Pro
 770 775 780
 Ser Val Leu Gly Ala Ser Ala Pro Gln Ile Asn Asn Cys Asp Met Lys
 785 790 795 800
 Ser Tyr Gly Trp Glu Leu Glu Leu Ser Trp Arg Asp Arg Ile Gln Gln
 805 810 815
 Phe Asn Tyr Gly Val Arg Leu Val Met Ser Asp Asn Met Gln Lys Ile
 820 825 830
 Leu Glu Tyr Pro Asn Lys Thr Ser
 835 840

<210> 10243

<211> 62

<212> PRT

<213> B.fragilis

<400> 10243

Phe Arg Thr Ile Ser Thr Ser Gln Thr Arg Gln Lys Arg Tyr Tyr Lys
 1 5 10 15
 Ile Thr Leu Ile Arg Gln Ala Tyr Gly Val Glu Thr Lys Lys Thr Leu
 20 25 30
 Lys His His Phe Arg Gln Asp Lys Ser Leu Pro Glu Lys Ser Gln Lys
 35 40 45
 Thr Asn Tyr Ser Asn Leu Cys Leu Thr Glu Gln Phe Ser Val
 50 55 60

<210> 10244

<211> 191

<212> PRT

<213> B.fragilis

<400> 10244

Ala Thr Val Asp Thr Ser Ser Pro Val Val Lys Thr Cys Leu Leu Ser
 1 5 10 15
 Pro His Arg Asn Ser Pro Met Asn Arg Val Asp Ile Glu Glu Tyr Leu
 20 25 30
 Cys Arg Val Phe His Leu Gln Arg Val Leu Trp Leu Asp His Gly Tyr
 35 40 45
 Leu Ser Gly Asp Asp Thr Asp Ser His Ile Asp Thr Leu Ala Arg Phe
 50 55 60
 Cys Ser Pro Asp Thr Ile Ala Tyr Val Lys Cys Thr Asp Ser Glu Asp
 65 70 75 80
 Glu His Tyr Glu Ala Leu Cys Lys Met Glu Glu Gln Leu Lys Thr Phe
 85 90 95
 Arg Thr Thr Ser Gly Ala Pro Tyr Arg Leu Leu Ala Leu Pro Met Ala
 100 105 110
 Asp Lys Ile Glu Val Glu Gly Glu Arg Leu Pro Ala Thr Tyr Ala Asn
 115 120 125
 Phe Leu Ile Met Asn Asp Val Val Leu Tyr Pro Thr Tyr Asn Gln Pro
 130 135 140

Glu	Asn	Asp	Lys	Leu	Ala	Lys	Glu	Val	Leu	Cys	Glu	Ala	Phe	Pro	Thr
145					150					155					160
Tyr	Glu	Val	Val	Gly	Ile	Asp	Cys	Arg	Ala	Leu	Ile	Lys	Gln	His	Gly
				165						170					175
Ser	Leu	His	Cys	Val	Thr	Met	Gln	Tyr	Pro	Thr	Gly	Val	Ile	Lys	
			180						185					190	

<210> 10245

<211> 202

<212> PRT

<213> B.fragilis

<400> 10245

Lys	Ala	Arg	Leu	Leu	Ile	Asp	Pro	Gly	Glu	Asp	Ser	Tyr	Arg	Leu	Val
1			5						10					15	
Asp	Leu	Pro	Asn	Gly	Glu	Glu	Leu	Arg	Ala	Gln	Ala	Gln	Lys	Glu	Phe
			20					25					30		
Asn	Leu	Thr	Asp	Ser	Glu	Thr	Lys	Ala	Leu	Ala	Asn	Tyr	Lys	Leu	Tyr
		35					40					45			
Gly	Asn	Leu	Asp	Lys	Gly	Val	Val	Arg	Gly	Phe	Glu	Val	Asn	Ala	Ala
	50					55					60				
Thr	Asn	Leu	Gly	Ala	Gly	Phe	Ser	Leu	Asn	Gly	Asn	Tyr	Ala	Tyr	Ala
65					70					75					80
Tyr	Ala	Arg	Gly	Lys	Ser	Val	Asp	Gly	Val	Trp	Gly	Asn	Ile	Asp	Arg
				85					90					95	
Ser	Val	Arg	His	Thr	Gly	Thr	Val	Ala	Gly	Asn	Tyr	Thr	His	Ala	Trp
			100					105						110	
Asn	Asp	Tyr	Met	Leu	Asn	Val	Asn	Ile	Asn	Gly	Arg	Phe	Gln	Ser	Lys
		115					120					125			
Arg	Phe	His	Pro	Gly	His	Ser	Tyr	Gly	Asp	Ala	Pro	Gly	Tyr	Gly	Val
	130						135				140				
Trp	Asn	Leu	Asn	Val	Lys	His	Ser	Leu	Thr	Gly	Phe	Gln	His	Leu	Gly
145					150					155					160
Leu	Asp	Phe	Gly	Met	Gly	Leu	Asp	Asn	Ile	Phe	Asn	Lys	Arg	Asp	Thr
				165					170					175	
Arg	Pro	Asn	Gly	Val	Asn	Tyr	Ala	Leu	Leu	Ser	Pro	Gly	Arg	Met	Ala
			180					185						190	
Tyr	Val	Ser	Leu	Thr	Leu	Arg	Phe	Lys	Lys						
		195						200							

<210> 10246

<211> 1095

<212> PRT

<213> B.fragilis

<400> 10246

Cys	Ser	Arg	Phe	Cys	His	Tyr	Lys	Phe	Leu	Leu	Tyr	Met	Lys	Ala	Tyr
1				5					10					15	
Arg	Leu	Lys	Ile	Thr	Cys	Phe	Ile	Leu	Leu	Leu	Leu	Pro	Val	Leu	Thr
			20					25					30		
Cys	Cys	Thr	Asp	Glu	Glu	Leu	Leu	Arg	Gly	Ser	Gly	Val	Pro	Glu	Gly
		35					40					45			
Val	Pro	Thr	Thr	Val	Asp	Ile	Ser	Val	Gly	Thr	Ala	Ala	Asn	Arg	Ala
	50					55					60				
Lys	Thr	Arg	Ser	Gly	Leu	Pro	Glu	Gly	Glu	Glu	Arg	Lys	Ile	Tyr	Asp
65					70					75					80
Leu	Tyr	Leu	Trp	Val	Phe	Asp	Ser	Arg	Gly	Gly	Val	Glu	Phe	Ser	Arg
				85					90					95	
Glu	Tyr	Pro	Arg	Ala	Glu	Leu	Tyr	Gln	Ala	Ala	Ala	Ala	Leu	Glu	Thr

Ala Thr Gly	100	105	110
Glu Lys Asp Thr Asp			
Ala Pro Thr Ser Met			
Gly Leu Leu			
115	120	125	
Lys Asn Ile Pro Ile Thr Ser			
Gly Glu Lys Thr Leu Val			
Leu Leu Ala			
130	135	140	
Asn Tyr Lys Ser Asp Gly Asp Gly			
Leu Phe Gln Val Glu Pro Gly Ile			
145	150	155	160
Leu Ala Gly Val Ser Ser Leu Ser Asp			
Ile Gln Arg Val Lys Ala Glu			
165	170	175	
Met Thr Ala Arg Thr Leu Phe Arg			
Pro Asn Gly Asn Leu Leu Met Ser			
180	185	190	
Val Thr Lys Thr Glu Glu Ile Ser			
Pro Asp Thr Arg Arg Leu Glu Val			
195	200	205	
Ser Leu Lys Arg Ala Glu Ala Lys			
Ile Thr Ile Asn Leu Lys Thr Gly			
210	215	220	
Glu Gly Leu Thr Phe Val Pro Gly Thr			
Trp Arg Val Gly Asn Val Pro			
225	230	235	240
Ala Ser Thr Phe Val Thr Glu His Val			
Lys Gly Ser Asp Ala Gly Ala			
245	250	255	
Pro Trp Asp Ala Gly Gly Met Glu			
Met Asp Ser Tyr Trp Leu Ser Glu			
260	265	270	
Leu Phe Gln Phe Glu Gly Asp Ala Thr			
Thr Thr Thr Thr Thr Thr Phe Tyr			
275	280	285	
Leu Pro Glu Asn Arg Lys Leu Ala Lys			
Lys Met Ile Thr Pro Ala Ser			
290	295	300	
Pro Gly Tyr Asn Ala Glu Arg Lys Gly			
Tyr Asp Leu Arg Gln Lys Gln			
305	310	315	320
Val Lys Ser Pro Val Pro Asp Ala Thr			
Glu Lys Pro Asn Val Gln Asn			
325	330	335	
Gly Ala Thr Glu Tyr Ala Pro Asp Leu			
Ala Pro Tyr Ile Glu Phe Thr			
340	345	350	
Gly Glu Leu Arg Gln Asp Met Thr Thr			
Gly Glu Val Ser Thr Glu Arg			
355	360	365	
Phe Gly Arg Val Thr Tyr Arg Val Tyr			
Leu Gly Tyr Thr Ala Glu Asn			
370	375	380	
Asp Pro Val Asn Asp Tyr Asp Ile Glu			
Arg Asn Val His Tyr Thr Tyr			
385	390	395	400
Asn Val Thr Ile Lys Gly Met Asn Asp			
Leu Val Val Glu Ala Met Ser			
405	410	415	
Asp Lys Asp Arg Glu Glu Glu Pro Ala			
Pro Gly Val Glu Gly Leu Val			
420	425	430	
Tyr Asp Ala His Arg Ser Phe Ser Phe			
Asp Cys His Tyr Glu Gln Gly			
435	440	445	
Leu Met Arg Phe Asn Lys Asp Glu Leu			
Ala Ile Phe Asn Pro Asp Gly			
450	455	460	
Ser Leu Lys Asp Asp Ala Met Ile Ser			
Phe Ala Ile Arg Thr Pro Phe			
465	470	475	480
Cys Asp Lys Ile Val Ser Tyr Thr Lys			
Ala Glu Leu Glu Gln Leu Glu			
485	490	495	
Asp Asn Gly Tyr Val Pro Ser Gly Glu			
Lys Lys Ala Asp Thr Gly Trp			
500	505	510	
Leu Ala Phe Phe Ile His Pro Ser Thr			
Leu Ser Asp Asn Gly Asn Glu			
515	520	525	
Thr Met Glu Tyr Tyr Ser Asn Thr Gly			
Ala His Leu Leu Ser Leu Glu			
530	535	540	
Gln Phe Leu Tyr Arg Leu Val Lys Glu			
Pro Asp Tyr Val Phe Asn Ala			
545	550	555	560
Ser Thr Gly Leu Cys Lys Val Thr Val			
Tyr Ala Asn Glu Tyr Phe Tyr			
565	570	575	

Glu	Arg	Asn	Pro	Met	Arg	Asp	Gly	Ala	Pro	Glu	Asp	Lys	Asn	Leu	Trp
			580					585					590		
Lys	Thr	Phe	Ala	Asn	Ala	Pro	Asp	Arg	Thr	Phe	Asp	Leu	Leu	Val	Asn
		595					600				605				
Thr	Ser	His	Glu	Ile	Ser	Pro	Asp	Gly	Gln	Ser	Arg	Tyr	His	Gln	Ala
	610					615				620					
Val	Val	Ser	Ile	Arg	Gln	Met	Ser	Ile	Lys	Thr	Val	Phe	Thr	Glu	Gly
625					630					635					640
Pro	Glu	Gly	Met	Arg	Val	Trp	Gly	Val	Glu	Asn	Val	Asn	Glu	Thr	Pro
			645					650					655		
Asp	Leu	Asp	Phe	Met	Val	Lys	Ala	Pro	Gly	Glu	Pro	Asp	Ala	Phe	Tyr
		660						665				670			
Asn	Lys	Tyr	Thr	Ser	Asn	Gly	Trp	Ser	Asn	Thr	Trp	Lys	Val	Met	Ala
	675					680					685				
Arg	Ser	Gly	Asp	Phe	Ser	Gln	Glu	Val	Met	Ile	Asp	Pro	Met	Arg	Arg
	690					695				700					
Ser	Lys	Gln	Asp	Gln	Leu	Trp	Gln	Val	Met	Thr	Lys	Val	Asp	Asn	Ala
705					710					715					720
Lys	Leu	Thr	Leu	Ser	Arg	Asp	His	Tyr	Asn	Leu	Ala	Ala	Lys	Asn	Tyr
			725					730					735		
His	Ala	Glu	Tyr	Ala	Cys	Phe	Thr	Pro	Phe	Leu	Arg	Asn	Arg	Asp	Asp
	740							745					750		
Asn	Arg	Asp	Gly	Arg	Met	Gln	Ala	Ala	Glu	Met	Lys	Trp	Tyr	Ile	Pro
	755						760					765			
Ser	Val	Ser	Glu	Ser	Gly	Met	Leu	Leu	Val	Gly	Glu	Arg	Ala	Leu	Pro
	770					775					780				
Leu	His	Ser	Arg	Leu	His	Gly	His	Ala	Pro	Ser	Asp	Asn	Ala	Thr	Ala
785					790					795					800
Phe	Tyr	Met	Ser	Arg	Ala	Phe	Met	Ala	Ser	Thr	Asn	Leu	Ser	Leu	Tyr
			805					810					815		
Ser	Ser	Asn	Pro	Tyr	Ile	Cys	Ile	Leu	Glu	Ser	Arg	Ser	Val	Thr	Pro
		820						825					830		
Ile	Ala	Asn	Phe	Asp	Tyr	Tyr	Lys	Gly	Gly	Asn	Ser	Pro	Gly	Asp	Arg
	835						840					845			
Thr	Pro	Tyr	Ser	Glu	Val	Arg	Leu	Ile	Arg	Asp	Leu	Gly	Met	Leu	Glu
	850					855				860					
Ser	Gly	Glu	Glu	Ser	Tyr	His	Ile	Glu	Glu	Leu	Gly	Lys	Glu	Leu	Asn
865					870					875					880
Lys	Ser	Leu	Val	Asn	Asn	Arg	Thr	Lys	Glu	Glu	Tyr	Leu	Val	Phe	Arg
			885					890					895		
Ala	Asp	Asn	Leu	Pro	Tyr	Ser	Met	Thr	Arg	Gly	Val	Arg	Ala	Ile	Tyr
		900						905					910		
Glu	Leu	Pro	Ala	His	Asp	Glu	Asp	Ser	Gln	Ser	Asn	Thr	Ile	Tyr	Lys
	915						920					925			
Asn	Gly	Phe	Glu	Val	Ala	Lys	Tyr	Ile	Ala	Asn	Lys	Ile	Asp	Lys	Pro
	930					935					940				
Lys	Asp	Leu	Asn	Asn	Pro	Asp	Arg	Lys	Ser	Glu	Tyr	Tyr	Leu	Gln	Asp
945					950					955					960
Trp	Ser	Thr	Leu	Met	Ala	Asp	Ile	Glu	Gln	Gly	Asn	Ser	Pro	Cys	Ala
			965					970					975		
Tyr	Tyr	Tyr	Gln	Glu	Ala	Asp	Lys	Ser	Asp	Leu	Gly	Thr	Trp	Arg	Val
	980							985					990		
Pro	Asn	Glu	Val	Glu	Leu	Ile	Ile	Met	Cys	Gly	Ser	Leu	Phe	Asp	Trp
	995						1000					1005			
His	Asn	Pro	Glu	Lys	Lys	Glu	Val	Tyr	Glu	Phe	Gly	Asn	Asp	Leu	Pro
	1010					1015					1020				
Ser	Leu	Gly	Val	Val	Glu	Ser	Glu	Val	Leu	His	Ser	Arg	Thr	Gly	Phe
1025					1030					1035					1040
Ser	Lys	Arg	Ser	Met	Asn	Gly	Ala	Arg	Ser	Phe	Ser	Ala	Gly	Tyr	Gln

		1045		1050		1055
Met	Tyr	Leu	His	Gly	Tyr	Leu
		1060		1065		1070
Trp	Ala	Gly	Asp	Asn	Asp	Arg
		1075		1080		1085
Arg	Cys	Val	Arg	Asp	Leu	Glu
		1090			1095	

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<400> 10247

Ile	Lys	Ile	Ser	Leu	Gln	Asn	Tyr	Ile	Trp	Tyr	Ile	Arg	Val	Glu	Leu
1			5					10					15		
Phe	Ser	Met	Leu	Ser	Glu	Leu	Ile	Gly	Asn	Phe	Met	Lys	Lys	Gly	Glu
		20						25				30			
Tyr	Leu	Arg	His	Met	Arg	Val	Phe	Ser	Ser	Val	Arg	Phe	Pro	Arg	Gly
		35					40					45			
Tyr	Ser	Cys	Val	Ala	Leu	Tyr	Gln	Glu	Val	Val	Pro	Phe	Ser	Lys	Ala
		50				55					60				
Met	Gly	Leu	Val	Leu	Gly	Ser	Glu	Ile	Val	Ile	Pro	Glu	Lys	Val	Cys
65					70					75				80	
Met	Gly	Arg	Gly	Pro	Leu	Val	Leu	Glu							
				85											

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 <213> B.fragilis

<400> 10248

Lys	Lys	Met	Ser	Lys	Ser	Ser	Phe	Leu	Leu	Asp	Phe	Lys	Ala	Phe	Val
1			5					10					15		
Met	Arg	Gly	Asn	Val	Val	Asp	Met	Ala	Val	Gly	Val	Ile	Ile	Gly	Gly
		20					25					30			
Ala	Phe	Gly	Lys	Ile	Ile	Ser	Ser	Val	Val	Ala	Asp	Ile	Ile	Met	Pro
		35				40					45				
Pro	Ile	Gly	Leu	Leu	Val	Gly	Gly	Thr	Asn	Phe	Ser	Glu	Leu	Arg	Trp
		50			55					60					
Glu	Leu	Glu	Pro	Ala	Arg	Val	Val	Asp	Gly	Val	Glu	Gln	Ala	Ala	Val
65				70				75						80	
Thr	Ile	Asn	Tyr	Gly	Asn	Phe	Ile	Gln	Thr	Met	Leu	Asp	Phe	Val	Ile
		85					90						95		
Ile	Ala	Phe	Ala	Ile	Phe	Leu	Phe	Ile	Arg	Leu	Leu	Ser	Asn	Leu	Arg
		100					105					110			
Arg	Lys	Lys	Glu	Glu	Thr	Pro	Phe	Ala	Pro	Thr	Cys	Pro	Glu	Gln	Arg
		115				120						125			
Gly	Lys	Val	Thr	Phe	Arg	Asn	Thr								
		130				135									

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 <213> B.fragilis

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Arg	His	Ile	Pro	Glu	Ala	Asn	Ser	Trp	Gln	Glu	Gly	His	Pro	His	Pro
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1	5	10	15
Lys Ile Gln Leu Thr Val Glu Tyr Tyr Thr Gly Gly Asn Ile Ser Gln			
20	25	30	
Thr Arg Thr Arg Thr Phe Leu Leu Asp Ile Gly Glu Glu Ser Ser Pro			
35	40	45	
Gly Val Tyr Ser Gly Pro Ile Tyr Pro Asn Arg Asp Tyr Lys Val Phe			
50	55	60	
Met Val Leu Pro Glu Ala Ala Asp Arg Glu Ile Ile Tyr Arg Val Glu			
65	70	75	80
Ser Trp Glu Arg Lys Asp Val Glu Phe Pro Pro Phe Gln			
85	90		

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Leu Arg Ala Pro Gly Glu Glu Arg Ala Arg Ala Asp Gly Gln Gly Ala
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Cys Val Tyr Gln Ile Val Lys Asp Lys Arg Ile Asp Asp Val Glu Met
20 25 30
Thr Gly Gln Trp Glu Thr Ala Leu Ala Lys Ile Glu Ser Gly Glu Met
35 40 45
Asn Pro Asp Ser Leu Arg Lys Ala Ile Glu Gly Tyr Ala Ala Gln Ile
50 55 60
Thr Glu Glu Leu Leu Gln Val Gln Val Ser Val Ala Asp Gly Gly His
65 70 75 80
Ile Pro Cys Pro Lys Cys Arg Ser Gly Arg Ile Leu Leu Tyr Pro Lys
85 90 95
Val Ala Lys Cys Ser Asn Val Asp Cys Ser Leu Thr Val Phe Arg Asn
100 105 110
Lys Gly Glu Lys Gln Leu Thr Asp Ser Gln Ile Thr Asp Leu Val Thr
115 120 125
Lys Gly Arg Thr Ala Leu Ile Lys Gly Phe Arg Ser Arg Glu Asp Lys
130 135 140
Pro Phe Asp Ala Tyr Leu Thr Phe Asp Lys Asp Phe Arg Ile Val Tyr
145 150 155 160
Gly Phe Pro Pro His Thr Asp Lys Ser Lys Gly Lys Glu His Arg Arg
165 170 175

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Phe Phe Thr Thr Met Lys Glu Tyr Cys Val Tyr Trp Phe Glu Asn Gly
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Glu Pro Arg His Glu Val Phe Ser Cys Leu Asp Gly Ala Glu Met Phe
20 25 30
Ser Cys Met Ile Arg Gly Gln Asp Gly Val Glu His Val Glu Ile Ser
35 40 45
Glu Glu Asp Ile Ser Ala Pro Glu Glu Phe Arg Glu Ile Cys Pro Gly
50 55 60
Asp Phe Ser
65

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<212> PRT

<213> B.fragilis

<400> 10252

Leu	Lys	Arg	Thr	Leu	Tyr	Thr	Asn	Ala	Lys	Ala	Asp	His	Met	Val	Arg
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Lys	Glu	Glu	Ile	Leu	Ala	Lys	Thr	Gly	Asn	Gly	Leu	Glu	Val	Phe	Arg
			20					25					30		
His	Tyr	Leu	Pro	Val	Lys	Trp	Arg	Val	Gly	Arg	Asn	Phe	Leu	Asn	Pro
		35					40					45			
Leu	Tyr	Ala	Asp	Gly	Arg	Ala	Ser	Cys	Asn	Val	Tyr	Tyr	Asp	Arg	His
	50					55					60				
Ser	Gly	Met	Tyr	Arg	Met	Lys	Asp	Phe	Gly	Asn	Gly	Glu	Tyr	Ser	Gly
65					70					75					80
Asp	Cys	Phe	Phe	Leu	Val	Ala	Lys	Leu	Lys	Gly	Leu	Asp	Cys	Arg	Ser
				85					90					95	
Ala	Ala	Asp	Phe	Val	Glu	Val	Leu	His	Thr	Ile	Asp	Arg	Glu	Leu	Cys
			100					105					110		
Leu	Gly	Leu	Asp	Gly	Ala	Ile	Pro	Ser	Gly	Thr	Asn	Asn	Arg	Glu	Gly
	115						120						125		
Ser	Cys	Arg	Thr	Thr	Arg	Pro	Val	Thr	Gly	Ala	Arg	Glu	Lys	Ser	Glu
	130					135					140				
Gly	Glu	Asn	Thr	Gly	Glu	Ser	Ile	Pro	Gly	Asp	Thr	Val	Thr	Gly	Thr
145					150					155					160
Glu	Gly	Lys	Asp	Leu	Ser	Arg	Glu	Arg	Pro	Gly	Pro	Ser	Pro	Tyr	Gln
				165					170					175	
Val	Ala	Glu	Lys	Ser	Phe	Thr	Glu	Arg	Glu	Leu	Ala	Tyr	Trp	Gly	Ile
			180					185					190		
Ser	Gly	Ile	Thr	Val	Glu	Val	Leu	His	Arg	Tyr	Gly	Val	Val	Ser	Leu
		195					200					205			
Ala	Glu	Tyr	Arg	Ser	Glu	Thr	Arg	Glu	Gly	Lys	Thr	Phe	Gly	Phe	Thr
	210					215						220			
Ser	Thr	Pro	Ala	Glu	Pro	Met	Phe	Gly	Tyr	Arg	Gly	Lys	Trp	Gly	Val
225					230					235					240
Lys	Val	Tyr	Arg	Pro	Leu	Ser	Glu	Val	Arg	Phe	Val	Tyr	Gly	Gly	His
				245					250					255	
Thr	Gly	Asp	Asn	Tyr	Cys	Phe	Gly	Leu	Glu	Gln	Leu	Pro	Ser	Lys	Gly
			260					265					270		
Asp	Leu	Leu	Phe	Leu	Thr	Gly	Gly	Glu	Lys	Asp	Val	Met	Thr	Leu	Ala
	275						280					285			
Ala	His	Gly	Phe	Gln	Ala	Ile	Cys	Phe	Asn	Ser	Glu	Thr	Ser	Val	Ile
	290					295					300				
Pro	Ala	Lys	Thr	Val	Arg	Lys	Leu	Val	Tyr	Arg	Phe	Lys	His	Ile	Val
305					310					315					320
Leu	Leu	Tyr	Asp	Thr	Asp	Lys	Thr	Gly	Leu	Glu	Cys	Ser	Glu	Lys	His
				325					330					335	
Arg	Val	Gln	Leu	Ser	Glu	Tyr	Gly	Val	Lys	Arg	Leu	Val	Leu	Pro	Leu
			340					345					350		
Pro	Gly	Thr	Lys	Ser	Glu	Lys	Asp	Val	Thr	Asp	Tyr	Phe	Lys	Ala	Gly
	355						360					365			
His	Thr	Arg	Glu	Asp	Leu	Met	Gly	Leu	Phe	Leu	Lys	Leu	Leu	Asp	Thr
	370					375					380				
Leu	Tyr	Gly	Asp	Thr	Met	Ala	Val	Leu	Lys	Ser	Cys	Glu	Ile	Asp	Tyr
385					390					395					400
Asp	Cys	Pro	Pro	Glu	Gln	Ala	Val	Ala	Ile	Val	Thr	Ala	Gly	Asp	Val
				405					410					415	
Pro	Leu	Gly	Ser	Glu	Glu	Asn	Ile	Leu	Cys	Ile	Thr	Gly	Gly	Glu	Gly
			420					425						430	

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Thr Gly Lys Ser Asn Tyr Thr Ala Ala Leu Val Ala Gly Ala Ile Met
 435 440 445
 Glu Arg Glu Glu Asp Ala Asp Leu Leu Gly Val Lys Val Glu Pro Asn
 450 455 460
 Arg Lys Gly Arg Ala Val Leu Leu Tyr Asp Thr Glu Gln Ser Glu Gln
 465 470 475 480
 Gln Leu Tyr Lys Asn Thr Gly Arg Leu Leu Arg Arg Ala Gly Arg Glu
 485 490 495
 Lys Met Pro Pro Tyr Leu His Val Tyr Cys Leu Thr Gly Met Ser Arg
 500 505 510
 Asn Glu Arg Leu Thr Ala Ile Ile Gln Ser Met Asp Lys Tyr His Tyr
 515 520 525
 Leu His Gly Gly Ile His Leu Val Val Ile Asp Gly Val Ala Asp Leu
 530 535 540
 Ile Arg Cys Ser Asn Asp Glu Ala Glu Ser Val Ala Leu Val Asp Glu
 545 550 555 560
 Ile Tyr Arg Leu Ala Gly Ile Tyr Arg Thr Cys Ile Thr Ala Val Val
 565 570 575
 His Phe Val Pro Asn Gly Leu Lys Leu Arg Gly His Leu Gly Ser Glu
 580 585 590
 Leu Gln Arg Lys Ser Ala Ala Ile Leu Ser Ile Glu Lys Asp Glu Asn
 595 600 605
 Pro Glu Val Ser Val Val Lys Ala Leu Lys Val Arg Asp Gly Ser Pro
 610 615 620
 Leu Asp Ile Pro Leu Met Gln Phe Arg Trp Asp Lys Gln Ala Gly Met
 625 630 635 640
 Pro Val Tyr Met Gly Glu Lys Pro Arg Val Glu Lys Glu Arg Arg Lys
 645 650 655
 Glu Lys Glu Leu Ser Glu Met Ala Arg Ala Ala Phe Val Thr Gln Lys
 660 665 670
 Lys Tyr Gly Tyr Ile Glu Leu Cys Glu Leu Ile Gln Glu Thr Leu Asp
 675 680 685
 Val Lys Glu Arg Thr Ala Lys Gly Tyr Ile Arg Tyr Met Arg Glu Lys
 690 695 700
 Glu Ile Ile Glu Lys Glu Gly Asp Cys Tyr Val Tyr Gly Gln Arg Lys
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 Ile

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 Asp Phe Leu Val Ser Lys Ser Phe Asp Val Thr Leu Arg Asp Phe Thr
 20 25 30
 Leu Ile Asp Glu Ile Leu Lys Arg Val Asp Thr Lys Gly Ile His Thr
 35 40 45
 Met Tyr Ile Asp Lys Leu Glu His Arg His Ile Leu Ser Tyr His Arg
 50 55 60
 Lys Gly Lys Ile Glu Ala Leu Lys Ala Ala Arg Glu Lys Ala Val Tyr
 65 70 75 80
 Leu Leu Glu Ala Ile Gly Lys Arg Pro Gly Glu Ile Ile Arg Ile Val
 85 90 95
 Glu Gly Gly Asp Ala Gly Lys Glu Met Phe Ala Gln Gly His Ile Leu
 100 105 110

Ser Val Ala Pro Pro Pro Phe Glu Arg Ser Arg Thr Ile Lys Lys Arg
 115 120 125
 Tyr Ser Met Leu Val Arg Phe Gly Ile Val Asp Arg
 130 135 140

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 Pro Phe Ala Ala Ser Ala Ser Ser Thr Arg Arg Arg Cys Arg Ser Ser
 1 5 10 15
 Ser Ser Val Thr Thr Ser Pro Thr Pro Thr Ser Arg Cys Ser Gly Arg
 20 25 30
 Arg Ala Thr Trp Gly Thr Arg Arg Leu Val Thr Asn Arg Ala Gly Glu
 35 40 45
 Gln Val Glu Ala Leu Val Ser Arg Asn Phe Lys Thr Asn Glu Leu Val
 50 55 60
 Ala Phe Pro Leu Ser Lys Val Asn Ile Pro Ala Glu Lys Asn Gly His
 65 70 75 80
 Thr Phe Thr Pro Asp Glu Ile Ala Arg Leu Lys Gln Gly Glu Ala Val
 85 90 95
 Val Cys Gln Phe Leu Ser Arg Ala Lys Glu Gly Glu Gln Pro Lys Ile
 100 105 110
 Tyr Pro Ala Pro Val Gln Phe Ser Ala Ala Lys Met Gln Leu Glu Phe
 115 120 125
 Leu Phe Gly Asp Arg Gly Lys Leu Ala Met Asp Ala Tyr Lys Thr Asn
 130 135 140
 Leu Lys Gln Thr Ala Asn Gln Glu Val Pro Lys Thr Phe Arg Lys Gln
 145 150 155 160
 Glu Leu Thr Glu Lys Ser Arg Leu Glu Leu Glu Ala Gly Gly Thr Val
 165 170 175
 Lys Val Ser Gly Leu Val Asp Lys Lys Gly Lys Ala Tyr Gln Gly Tyr
 180 185 190
 Ile Thr Trp Lys Pro Gly Glu Lys Pro Ala Phe Met Phe Pro Lys Asp
 195 200 205
 Tyr Lys Ala Ala Leu Glu Glu Gly Arg Val Lys Pro Ala Val Glu Asn
 210 215 220
 Glu Val Gln Val Ala Val Asn Ser Glu Gly Lys Thr Val Glu Ala Thr
 225 230 235 240
 Arg Asn Leu Lys Glu Ala Leu Gln Ser Ala Gln Gln Arg Pro Thr Gly
 245 250 255
 Glu Gln Lys Gln Gln Gln Glu Arg Lys Gln Glu Gln Lys Glu Glu Arg
 260 265 270
 Lys Gln Ser Gln Lys Gln Glu Gln Pro Asp Lys Pro Lys Arg Ser Arg
 275 280 285
 Gly Val Arg Arg
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 Leu Arg Asn Asn Met Ile Glu Thr Tyr Phe Asn Asn Leu Met Gln Glu
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 Val Glu Arg Lys Met Gly Ile Glu Ser Ser Arg Met Glu Gly Glu Gln

Val	Ile	Arg	Thr	Cys	Gln	Glu	Met	Val	Ser	Phe	Leu	Arg	Glu	Arg	Ser
		35					40						45		
Arg	Glu	Leu	Lys	Asp	Tyr	Val	Leu	Asn	His	Pro	Phe	Ser	Asn	Val	Glu
	50					55					60				
Glu	Glu	Ile	Cys	Phe	Phe	Lys	Tyr	Tyr	Lys	Pro	Ala	Leu	Thr	Gly	Arg
65					70					75					80
Leu	Leu	Tyr	Tyr	Tyr	Arg	Val	Tyr	Gln	Ile	Glu	Ser	Gly	Cys	Ser	Cys
				85					90					95	
Cys	Pro	Glu	Ile	Ala	Arg	Met	His	Tyr	Arg	Lys	Ala	Met	Lys	Glu	Tyr
			100					105					110		
Gln	Arg	Lys	Leu	Glu	Arg	Tyr	Leu	Pro	Phe	Tyr	Gln	Tyr	Tyr	Arg	Ser
		115					120					125			
Gly	Ala	Thr	Tyr	Arg	Asp	His	Tyr	Tyr	Phe	Arg	Arg	Ala	Lys	Lys	Glu
130						135					140				
Leu	Ser	Pro	Glu	Ser	Gly	Ser	Phe	Met	Leu	Glu	Glu	Asp	Ser	Val	Met
145					150					155					160
Ser	Thr	Gly	Tyr	Asp	Leu	Leu	Ala	Ala	Arg	Leu	Ile	Ala	Ala	Glu	Met
				165					170					175	
Leu	Leu	Gly	Tyr	Leu	Asn	Arg	Lys	Val	Leu	Leu	Ala	Met	Glu	Gly	Ala
			180					185					190		
Tyr	Ala	Val	Gln	Glu	Lys	Glu	His	His	Trp	Thr	Asp	Arg	Lys	Ala	Ala
		195					200					205			
Ala	Val	Glu	Leu	Ile	Tyr	Gly	Ile	Trp	Ala	Met	Gly	Ser	Val	Asp	Asn
	210					215					220				
Gly	Arg	Val	Ser	Ile	Val	Glu	Leu	Val	Met	Leu	Phe	Glu	Gln	Met	Phe
225					230					235					240
His	Ile	Asp	Leu	Gly	Asp	Val	Tyr	His	Thr	Phe	Ile	Ser	Met	Arg	Asn
				245					250					255	
Arg	Lys	Asn	Ser	Arg	Thr	Ala	Tyr	Leu	Asp	Gln	Met	Lys	Glu	Arg	Leu
			260					265					270		
Leu	Lys	Arg	Met	Asp	Glu	Thr	Asp	Gly							
		275					280								

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 <212> PRT
 <213> B.fragilis

<400> 10256															
Ser	Gly	Cys	Lys	Ile	Gly	Pro	Val	Ser	Thr	Ile	Phe	Ser	Pro	Ile	Asn
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Arg	Ile	Arg	Lys	Met	Lys	Ala	Pro	Arg	Lys	Ile	Tyr	Thr	Trp	Thr	Ser
			20					25					30		
Ile	Leu	Leu	Phe	Val	Cys	Cys	Ser	Leu	Ile	Phe	Leu	Ser	Cys	Glu	Lys
	35						40					45			
Glu	Glu	Leu	Gly	Glu	Ala	Met	Glu	Asn	Arg	Lys	Thr	Leu	Phe	Met	Phe
	50					55					60				
Leu	Pro	Trp	Ser	Thr	Asp	Leu	Thr	Gly	Tyr	Phe	Tyr	Thr	Asn	Ile	Ala
65					70					75					80
Asp	Met	Glu	Ala	Cys	Val	Ser	Arg	Arg	Gly	Leu	Glu	His	Glu	Arg	Ile
				85					90					95	
Leu	Val	Phe	Met	Ser	Thr	Ser	Ser	Thr	Glu	Ala	Thr	Met	Phe	Glu	Ile
			100					105					110		
Ile	His	Ser	Lys	Gly	Lys	Cys	Asp	Arg	Lys	Thr	Leu	Lys	Arg	Tyr	Gly
		115					120					125			
Thr	Ser	Gly	Phe	Thr	Thr	Val	Glu	Gly	Ile	Thr	Gly	Ile	Leu	Asn	Asp
		130				135					140				
Val	Gln	Glu	Phe	Ala	Pro	Ala	Pro	Val	Tyr	Ala	Met	Ile	Ile	Gly	Ser

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<210> 10257
<211> 85
<212> PRT
<213> B.fragilis
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<210> 10258
<211> 232
<212> PRT
<213> B.fragilis
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<400> 10258

Asn Ala Met Asn Arg Tyr Val Ser Glu Met Ile Gly Thr Met Val Leu
 1 5 10 15
 Val Leu Met Gly Cys Gly Ser Ala Val Phe Ala Gly Asp Met Pro Gly
 20 25 30
 Ala Val Thr Thr Gly Val Gly Thr Leu Gly Val Ala Ile Ala Phe Gly
 35 40 45
 Leu Ser Val Val Ala Met Ala Tyr Ala Ile Gly Gly Ile Ser Gly Cys
 50 55 60
 His Ile Asn Pro Ala Ile Thr Leu Gly Met Tyr Cys Ser Gly Gly Met
 65 70 75 80
 Gly Gly Lys Asp Ala Leu Leu Tyr Ile Ile Phe Gln Ile Ile Gly Gly
 85 90 95
 Ile Leu Gly Ser Ala Val Leu Phe Ile Leu Val Ser Thr Gly Pro His
 100 105 110
 Ala Gly Pro Thr Met Thr Gly Ser Asn Gly Phe Val Glu Gly Glu Met
 115 120 125
 Leu Gln Ala Phe Ile Ala Glu Ala Val Phe Thr Phe Ile Phe Val Leu
 130 135 140
 Val Ala Leu Gly Ala Thr Asp Lys Lys Lys Gly Ala Gly Lys Leu Ala
 145 150 155 160
 Gly Leu Val Ile Gly Leu Thr Leu Val Leu Val His Ile Val Cys Ile
 165 170 175
 Pro Ile Thr Gly Thr Ser Val Asn Pro Ala Arg Ser Ile Gly Pro Ala
 180 185 190
 Leu Phe Glu Gly Gly Gly Ala Ile Ser Gln Leu Trp Leu Phe Ile Val
 195 200 205
 Ala Pro Leu Thr Gly Gly Leu Ala Ser Ala Ile Val Trp Lys Ala Ile
 210 215 220
 Ser Gln His Ser Asp Arg Gln Arg
 225 230

<210> 10259
 <211> 378
 <212> PRT
 <213> B.fragilis

<400> 10259
 His Asn Met Asn Phe Glu Gln Leu Ala Thr Ile Ile Ala Asp Thr His
 1 5 10 15
 Gln Arg Leu Gln Gln Ser Ala Val Lys Ala Val Asn Gln Cys Gln Thr
 20 25 30
 Met Arg Asn Trp Leu Ile Gly Phe Tyr Ile Val Glu Phe Glu Gln Asn
 35 40 45
 Gly Glu Asp Arg Ala Lys Tyr Gly Glu Phe Leu Leu Lys Asn Leu Glu
 50 55 60
 Gln Lys Val Asn Leu Lys Gly Leu Asn Ile Thr Leu Phe Lys Arg Ser
 65 70 75 80
 Arg Val Phe Tyr Met Val Tyr Pro Gln Leu Ala Thr Val Ile Lys Thr
 85 90 95
 Ile Leu Pro Pro Thr Gly Ala Ser Thr Met His Leu Leu Glu Met Gln
 100 105 110
 Gly Leu Gly Lys Ser Ala Ser Leu Met His Leu Leu Gln Asn Ala Glu
 115 120 125
 Asn Lys Gln Asp Ile Val Asn Thr Ile Glu Pro Gln Lys Leu Leu Ser
 130 135 140
 Ser Ile Ser Phe Thr His Phe Ile Glu Leu Val Lys Ile Asp Asn Pro
 145 150 155 160
 Ile Lys Arg Met Tyr Tyr Glu Met Leu Thr Ile Gln Thr Gly Leu Ser
 165 170 175

6085 6085 6085

Val Arg Glu Leu Lys Arg Gln Ile Gly Ala Leu Ser Tyr Glu Arg Val
 180 185 190
 Gly Leu Ser Gly Asn Met Glu Asn Ala Leu Ala Ala Ile Gln Gln Lys
 195 200 205
 Ile His Pro Gln Thr Val Thr Asp Ala Val Lys Asp Asp Tyr Phe Phe
 210 215 220
 Glu Phe Leu Asn Ile Pro Gln Gln Arg Ala Ser Leu Leu Lys Glu Lys
 225 230 235 240
 Glu Leu Glu Thr Leu Leu Leu Asp His Leu Arg Asp Phe Ile Ile Glu
 245 250 255
 Leu Gly Asn Gly Phe Cys Phe Glu Ala Arg Gln Lys Arg Ile Leu Ile
 260 265 270
 Gly Asp Glu Phe Tyr Phe Ile Asp Met Val Phe Tyr His Arg Ile Leu
 275 280 285
 Lys Cys His Ile Leu Cys Glu Leu Lys Val Asp Thr Phe Asn His Ala
 290 295 300
 His Val Ser Gln Leu Tyr Ser Tyr Leu Asn Tyr Tyr Lys Ala Glu Val
 305 310 315 320
 Met Glu Pro Gly Asp Asn Pro Pro Ile Gly Ile Leu Leu Val Thr Asp
 325 330 335
 Lys Asn Asp Ala Leu Val Arg Tyr Thr Thr Thr Gly Leu Asp Glu Gln
 340 345 350
 Ile Phe Val Ser Lys Tyr Gln Leu Gln Leu Pro Thr Glu Gln Gln Leu
 355 360 365
 Lys Glu Leu Ile Leu Lys Thr Ile Arg Gln
 370 375

<210> 10260

<211> 120

<212> PRT

<213> B.fragilis

<400> 10260

Lys Leu Asn Leu Met Met Lys Lys Ile Phe Ile Ser Leu Phe Leu Ser
 1 5 10 15
 Gly Val Phe Met Tyr His Thr Asn Ala Gln Thr Ala Val Glu Gly Asn
 20 25 30
 Lys Phe Leu Asp Asn Trp Ser Ile Gly Ile Ser Ala Gly Gly Thr Thr
 35 40 45
 Pro Leu Thr His His Ser Phe Gly Asn Met Arg Pro Ile Thr Glu
 50 55 60
 Ile Glu Leu Asn Lys Gln Leu Thr Pro Val Phe Gly Phe Gly Leu Glu
 65 70 75 80
 Ala Val Gly Ser Phe Asn Thr Ser Gln Ser Arg Thr Ile Phe Asp Arg
 85 90 95
 Ser Asn Val Ser Leu Leu Gly Leu Glu Asn Leu Asn Asn Leu Leu Gly
 100 105 110
 Thr Tyr Thr Gly Val Pro Arg Pro
 115 120

<210> 10261

<211> 138

<212> PRT

<213> B.fragilis

<400> 10261

Lys Ile Met Glu Ile Ile Ala Ile Glu Ser Ile Ala Phe Ala Thr Leu
 1 5 10 15
 Val Glu Lys Ile Glu Gly Ile Ala Ala Tyr Val Gln Ala Ser Gly Thr

6086
 10260
 120
 PRT
 B.fragilis
 10260
 10261
 138
 PRT
 B.fragilis
 10261

	20		25		30										
Lys	Glu	Arg	Glu	Gln	Trp	Pro	Val	Ala	Asp	Lys	Lys	Gly	Thr	Arg	Lys
	35						40					45			
Ala	Gly	Leu	Trp	Met	Thr	Gly	Lys	Glu	Val	Cys	Glu	Gln	Leu	Glu	Ile
	50					55					60				
Ser	Pro	Arg	Thr	Leu	Gln	Arg	Tyr	Arg	Thr	Asn	Arg	Ile	Ile	Ala	Tyr
	65				70					75				80	
Ser	Ile	Cys	Gly	Arg	Lys	Ile	Arg	Tyr	Arg	Arg	Thr	Asp	Val	Glu	Gln
			85						90					95	
Phe	His	Glu	Arg	Trp	Ile	Arg	Glu	Thr	Pro	Asp	Lys	Leu	Val	Asp	Arg
		100					105						110		
Met	Ile	Glu	Ala	Tyr	Pro	Leu	His	Gln	Cys	Lys	Ser	Arg	Ser	Tyr	Gly
		115				120						125			
Lys	Lys	Arg	Gly	Asn	Thr	Gly	Lys	Asn	Arg						
	130					135									

<210> 10262

<211> 143

<212> PRT

<213> B.fragilis

<400> 10262

Arg	Asn	Gly	Arg	Arg	Arg	Gly	Thr	Ser	Val	Thr	Cys	Gly	Lys	Arg	Lys
1			5						10					15	
Leu	Leu	Lys	Arg	Arg	Ala	Thr	Ala	Met	Tyr	Met	Asp	Ser	Glu	Lys	Phe
		20						25					30		
Glu	Asn	Trp	Met	Glu	Arg	Ile	Met	Glu	Arg	Phe	Asp	Arg	Thr	Glu	Lys
		35				40					45				
Leu	Leu	Glu	Arg	Val	Leu	Lys	Lys	Ser	Asn	Ala	Leu	Asp	Gly	Glu	Glu
	50					55					60				
Val	Leu	Asp	Asn	Gln	Asp	Leu	Cys	Leu	Leu	Leu	Lys	Val	Gly	Ile	Arg
	65			70					75					80	
Thr	Leu	Gln	Arg	Tyr	Arg	Ala	Ile	Gly	Ile	Leu	Pro	Tyr	Phe	Thr	Ile
			85						90					95	
Ser	Gly	Lys	Val	Phe	Tyr	Arg	Val	Lys	Asp	Val	His	Glu	Phe	Leu	Arg
		100					105						110		
Asn	Gln	Phe	Ala	Ala	Val	Glu	Glu	Arg	Ala	Ala	Lys	Arg	Lys	Glu	Lys
		115					120						125		
Glu	Val	Arg	Lys	Glu	Glu	Arg	Arg	Lys	Lys	Gly	Leu	Phe	Pro		
	130					135					140				

<210> 10263

<211> 235

<212> PRT

<213> B.fragilis

<400> 10263

Phe	Asn	Leu	Arg	Glu	Ser	Lys	Ala	Trp	Thr	Leu	Ala	Leu	Lys	Pro	Ala
1			5						10					15	
Leu	Val	Tyr	Asp	Met	Asn	Ala	Met	Gly	Ser	Glu	Ala	Val	Arg	Phe	His
		20						25					30		
Ser	Gly	Arg	Ala	Val	Trp	Glu	Ile	Ser	Val	Gly	Leu	Lys	Tyr	His	Phe
		35				40						45			
Gly	Cys	Ser	Asn	Gly	Lys	His	His	Phe	Thr	Lys	Val	Arg	Ala	Tyr	Asp
	50				55						60				
Gln	Gln	Glu	Val	Asp	Val	Leu	Asn	Ala	Lys	Ile	Asn	Glu	Leu	His	Thr
	65			70						75				80	
Gln	Ala	Gly	Lys	Asp	Ala	Lys	Ala	Leu	Gln	Glu	Ala	Val	Arg	Lys	Val
			85						90					95	

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<210> 10264
<211> 91
<212> PRT
<213> B.fragilis
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<210> 10265
<211> 87
<212> PRT
<213> B.fragilis
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<210> 10266
<211> 143

<212> PRT

<213> B.fragilis

<400> 10266

Glu	Gly	Ala	Gly	Val	Arg	Thr	Glu	Arg	Arg	Gln	Asp	Met	Gly	Cys	Thr
1				5					10					15	
Val	Glu	Arg	Ser	Ala	Gly	Gly	Arg	Glu	Asn	Pro	Asn	Gly	Val	Arg	Glu
			20					25					30		
Asp	Val	Ile	Lys	Lys	Gln	Pro	Ala	Asp	Leu	Gly	Ile	Ile	Lys	Glu	Ala
		35					40					45			
Trp	Gln	Val	Leu	Leu	Ile	Ala	Lys	Ile	Thr	Glu	Ile	Val	Gly	Thr	Thr
	50					55					60				
Asn	Ile	Arg	Ile	Leu	Gln	Met	Arg	Asn	Tyr	Val	Leu	Arg	Ile	Cys	Tyr
65					70				75					80	
Tyr	Cys	Arg	Ile	Val	Phe	Lys	Ile	Asn	Ser	Phe	Asn	Cys	Cys	Ser	Val
				85					90					95	
Gly	Ser	Cys	Asn	Trp	Tyr	Leu	Glu	Thr	Asn	Ile	Cys	Ser	Ser	Asn	Pro
			100					105					110		
Val	Val	Val	Tyr	Arg	Thr	Asn	Ala	Ser	Phe	Leu	Ser	Val	Thr	Ser	Lys
		115					120					125			
Met	Pro	Ile	Gly	Gly	Leu	Ser	Pro	Gly	Ser	Ile	Thr	Ser	Ala	Leu	
		130					135				140				

<210> 10267

<211> 98

<212> PRT

<213> B.fragilis

<400> 10267

Asn	Ser	Asp	Met	Thr	Lys	Ala	Asp	Ile	Ile	Asn	Arg	Val	Ser	Glu	Glu
1				5					10					15	
Leu	Gly	Ile	Asp	Arg	Arg	Thr	Val	Gly	Leu	Val	Ile	Glu	Ser	Phe	Met
			20					25					30		
Lys	Cys	Val	Lys	Asp	Ala	Leu	Gly	Arg	Glu	Arg	Ile	Val	Phe	Leu	Arg
		35					40					45			
Gly	Phe	Gly	Thr	Phe	Ser	Leu	Lys	Lys	Arg	Ala	Ala	Lys	Lys	Ala	Gln
	50					55				60					
Asn	Ile	Gln	Gln	His	Thr	Thr	Ile	Cys	Ile	Pro	Ala	Arg	Lys	Val	Pro
65					70					75				80	
His	Phe	Lys	Pro	Ser	Glu	Ser	Phe	Leu	Val	Leu	Arg	Lys	Glu	Asp	Asn
				85					90					95	

Arg Lys

<210> 10268

<211> 81

<212> PRT

<213> B.fragilis

<400> 10268

Gln	Val	Arg	Ile	Thr	Cys	Ser	Pro	Ser	Ile	Arg	Glu	Asp	Ser	Met	Pro
1				5					10					15	
Ile	Leu	Arg	Ser	Thr	Ser	Cys	Ile	Lys	Leu	Leu	Lys	Tyr	Val	Ser	Ile
			20					25					30		
Met	Leu	Phe	Leu	Asn	Tyr	Gly	Ala	Arg	Glu	Tyr	Leu	His	Ala	Thr	Arg
		35					40					45			
Phe	Ile	Phe	Met	Pro	Arg	Leu	Ile	Arg	Ser	Gln	Val	Phe	Leu	Ser	Ala
	50					55					60				
Leu	Tyr	Asp	Glu	Lys	Thr	Phe	Pro	His	Ile	Glu	Lys	Thr	Gly	Glu	Lys

70

75

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<210> 10269
<211> 546
<212> PRT
<213> B.fragilis
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Arg	Asn	Met	Ile	Thr	Ala	Val	Ile	Ala	Glu	Lys	Pro	Ser	Val	Ala	Lys
1				5					10					15	
Asp	Ile	Ala	Asn	Val	Leu	Asn	Val	Arg	Glu	Arg	His	Asp	Gly	Tyr	Leu
			20					25					30		
Ser	Gly	Asn	Gly	Tyr	Leu	Val	Thr	Trp	Ala	Phe	Gly	His	Leu	Val	Gln
		35					40					45			
Leu	Ala	Met	Pro	Glu	Ala	Tyr	Gly	Tyr	Ala	Gly	Phe	Arg	Arg	Glu	Asn
	50					55					60				
Leu	Pro	Ile	Leu	Pro	Gln	Glu	Phe	Lys	Tyr	Ile	Pro	Arg	Gln	Ile	Arg
65					70					75					80
Glu	Gly	Lys	Glu	Tyr	Lys	Pro	Asp	Pro	Gly	Val	Leu	Lys	Gln	Leu	Lys
				85					90					95	
Val	Ile	Arg	Glu	Val	Phe	Asp	Arg	Ser	Asp	Arg	Ile	Val	Val	Ala	Thr
			100					105					110		
Asp	Ala	Gly	Arg	Glu	Gly	Glu	Ala	Ile	His	Arg	Tyr	Ile	Tyr	Asn	Tyr
		115					120					125			
Leu	Gly	Cys	Arg	Lys	Pro	Cys	Leu	Arg	Leu	Trp	Ile	Ser	Ser	Leu	Thr
	130					135					140				
Asp	Arg	Ala	Ile	Arg	Glu	Gly	Leu	Asp	Asn	Leu	Lys	Ile	Gly	Ser	Asp
145					150					155					160
Tyr	Asp	Asn	Leu	Tyr	Arg	Ala	Ala	Glu	Ala	Arg	Ala	Ile	Ala	Asp	Trp
				165					170					175	
Glu	Ile	Gly	Leu	Asn	Ala	Thr	Gln	Ala	Leu	Ser	Ile	Ala	Ala	Gly	Gln
			180					185					190		
Gly	Ile	Tyr	Ser	Leu	Gly	Arg	Val	Gln	Thr	Pro	Thr	Leu	Met	Met	Ile
		195					200					205			
Cys	Ser	Arg	Tyr	Leu	Glu	Asn	Arg	Asp	Phe	Thr	Pro	Gln	Thr	Tyr	Tyr
	210					215					220				
Arg	Leu	Lys	Val	Thr	Ala	Glu	Lys	Asp	Gly	Thr	Pro	Phe	Ala	Ala	Ile
225					230					235					240
Ser	Glu	Leu	Arg	Tyr	Glu	Thr	Leu	Pro	Ala	Ala	Asn	Ala	Ala	Leu	Gly
				245					250					255	
Ala	Val	Thr	Ala	Thr	Gly	Thr	Val	Glu	Val	Ala	Asp	Leu	Gln	Arg	Arg
			260					265					270		
Glu	Val	Ser	Gln	Glu	Pro	Pro	Leu	Leu	Tyr	Asp	Leu	Thr	Ala	Leu	Gln
		275					280					285			
Lys	Glu	Ala	Asn	Gly	Arg	Tyr	Gly	Phe	Ser	Ala	Asp	Lys	Thr	Leu	Ser
	290					295					300				
Ile	Ala	Gln	Ser	Leu	Tyr	Glu	Lys	Lys	Val	Leu	Ser	Tyr	Pro	Arg	Thr
305					310					315					320
Gly	Ser	Arg	Tyr	Leu	Ser	Asp	Asp	Val	Phe	Asp	Glu	Ile	Pro	Asp	Arg
				325					330					335	
Ile	Ala	Leu	Leu	Glu	Arg	Tyr	Pro	Ala	Phe	Ala	Ala	His	Ala	Ala	Ala
			340					345					350		
Leu	Lys	Gly													

385 390 395 400
 Glu Ala Phe Ser Ala Arg Cys Leu Lys Asp Ala Thr Thr Val Ser Phe
 405 410 415
 Thr Ala Gly Asn Ser Val Phe Thr Ala Lys Gly Thr Val Val Arg Ser
 420 425 430
 Ala Gly Trp Arg Ala Val Arg Asn Glu Arg Glu Glu Asp Asp Glu Gly
 435 440 445
 Thr Ala Ala Leu Pro Thr Met Gln Thr Asp Glu Ala Phe Pro Leu Gln
 450 455 460
 Ser Ala Glu Cys Val Glu Lys Gln Thr Lys Pro Arg Pro Leu His Thr
 465 470 475 480
 Glu Ser Ser Leu Leu Ser Ala Met Glu His Cys Gly Arg Glu Leu Gln
 485 490 495
 Asp Asp Glu Leu Arg Asp Ser Leu Lys Gly Asn Gly Ile Gly Thr Pro
 500 505 510
 Ala Thr Arg Ala Tyr Ile Ile Glu Thr Leu Tyr Ala Arg Asp Tyr Val
 515 520 525
 Arg Pro Glu Lys Lys Glu Leu Val Pro Thr Asp Lys Glu Leu Ala Cys
 530 535 540
 Ile Lys
 545

<210> 10270
 <211> 517
 <212> PRT
 <213> B.fragilis

<400> 10270
 Phe Phe Gln Ile Met Asp Glu Gln Pro Asp Ser Ser Gln Gln Leu Met
 1 5 10 15
 Asp Ile Leu Leu Val Met Asp Glu Lys Gly Thr Leu Gln Ala Val Ser
 20 25 30
 Gly Val Lys Asp Gly Glu Leu Gln Thr Lys Asn Pro Leu Glu Asp Asn
 35 40 45
 Asn Asp Leu Leu Arg Val Asp Arg His Gly Asp Met Phe Ser Asn Phe
 50 55 60
 Phe Ser Asn Leu Trp Ser Gln Leu Lys Asp Pro Thr Arg Phe His Phe
 65 70 75 80
 Phe Arg Val Pro Glu Gln Val Gln Arg Val Pro Ala Asp Phe Arg
 85 90 95
 Gln Arg Glu Ser Arg Ser Val Lys Thr Gly Glu Pro Leu Leu Ala Gln
 100 105 110
 Tyr Glu Val Gln Pro Pro Val Gln Ala Gln Gln Gln Thr Gln Ala Gly
 115 120 125
 Gln Gln Gln Gln Pro Glu Asp Ala Pro Gln Gln Ser Ala Gly Gln Thr
 130 135 140
 Glu Gln Asn Pro Gln Tyr Lys Tyr Arg Pro Glu Asp Ile Asp Trp Asn
 145 150 155 160
 Ser Leu Ala Ala Leu Gly Val Gln Arg Glu Gln Ile Glu Gly Asn Gly
 165 170 175
 Met Leu Asp Gln Met Leu Arg Gly Phe Gln Thr Asp Lys Thr Val Arg
 180 185 190
 Val His Phe His Phe Glu Gly Ile Ser His Ser Asn Asp Ser Gln Leu
 195 200 205
 Ser Leu Lys Pro Gly Thr Asp Gly Arg Leu Thr Val Cys Ser Leu Gly
 210 215 220
 Ile Leu Asp Pro Glu Lys Met Gln Lys Gln Phe Phe Gly Tyr Asp Ile
 225 230 235 240
 Thr Asp Ser Asp Lys Gln Val Leu Arg Gln Thr Gly Tyr Met Gly His

10270
 517
 PRT
 B.fragilis

245 250 255
 Pro Ala Thr Arg His Gln Pro Gly Gly Arg Ala Gly Arg Ser Pro Cys
 260 265 270
 Gln Pro Gln Leu Gln Asp Gln Arg Ala Gly Arg Phe Pro Ala Leu Gln
 275 280 285
 Gly Gln Tyr Pro Gly Gly Glu Glu Arg Ala Tyr Leu His Pro Gly Arg
 290 295 300
 Asn Ser Pro Ala Gln Thr Gly Arg Gly Gly Gly Leu Pro Val Pro Phe
 305 310 315 320
 Gln Ser Gln Gly Gly Gly Ala Thr Gln Asp Leu Pro Gly Ser Arg Thr
 325 330 335
 Val Gln Arg Ser Gln Asp Ala Ala Arg Ile Ser Leu Arg Arg Pro Gly
 340 345 350
 Gln Ala Gly Asp Gly Cys Val Gln Asp Glu Pro Glu Thr Asp Arg Gln
 355 360 365
 Ser Gly Gly Ala Glu Asp Phe Pro Gln Ala Gly Ala Tyr Arg Glu Val
 370 375 380
 Ser Pro Arg Thr Arg Ser Arg Gly Asn Gly Gln Gly Leu Arg Ser Gly
 385 390 395 400
 Gly Gln Glu Arg Lys Ser Leu Pro Arg Leu His His Met Glu Ala Arg
 405 410 415
 Arg Glu Ala Arg Leu His Val Ser Gln Gly Leu Gln Gly Gly Thr Arg
 420 425 430
 Arg Gly Ala Cys Gln Ala Arg Arg Gly Glu Arg Gly Ala Gly Gly Gly
 435 440 445
 Gln Phe Arg Gly Gln Asp Arg Arg Gly Asp Pro Gln Pro Glu Arg Ser
 450 455 460
 Pro Ala Ile Arg Thr Ala Ala Pro His Arg Gly Ala Glu Thr Ala Ala
 465 470 475 480
 Gly Ala Gln Ala Gly Ala Glu Arg Gly Thr Glu Thr Val Thr Glu Ala
 485 490 495
 Gly Thr Ala Arg Gln Ala Gln Ala Gln Pro Gly Cys Pro Pro Leu Ile
 500 505 510
 Ser Pro Ala Thr Leu
 515

<210> 10271
 <211> 165
 <212> PRT
 <213> B.fragilis

<400> 10271
 Lys His Ile Val Met Lys Gln Ile Thr Leu His Val Tyr Gln Ser Ile
 1 5 10 15
 Asp Gly Cys Pro Val Ile Ala Asp Lys Cys Phe Asn Ala Val Val Asp
 20 25 30
 Ala Cys Ala Tyr Val Leu Ile Asp Glu Glu Thr Tyr Leu Arg Ile Tyr
 35 40 45
 Leu Asn Asp Leu Asp Trp Pro Leu Glu Ala Lys Glu Thr Leu Val Val
 50 55 60
 Thr Asn Gly Cys Ile Asp Leu Thr Glu Thr Glu Arg Val Arg Phe Val
 65 70 75 80
 Arg Gly Asn Val Val Thr Glu Leu Gln Arg Ile Lys Glu Asn Gly Asp
 85 90 95
 Gly Met Val Val Ala Tyr Gly Gly Glu Thr Gly Val Leu Leu Leu Asp
 100 105 110
 Asn Gly Leu Ala Asp Glu Ile Val Met Thr Thr Val Pro Val Leu Val
 115 120 125
 Gly Asn Ser Glu Lys Gly Leu Glu Cys Gly Pro Asn Asp Gly Arg Ile

130 135 140
 Trp Ala Val Arg Ser Ser Glu Val Leu Glu Asp Gly Lys Ile Arg Thr
 145 150 155 160
 Val Tyr Gly Arg Met
 165

<210> 10272
 <211> 69
 <212> PRT
 <213> B.fragilis

<400> 10272
 His Met Ser Val Val Glu Ser Ile Asn Phe Gln Phe Ala Gln Asn Met
 1 5 10 15
 Thr Phe Gln Asn Pro Val Val Glu Asp His Ile Asn Glu Ile Lys Phe
 20 25 30
 Val Thr Asp Lys Asp Ser Phe Leu Ser Gly Phe Glu Thr Glu Ala Val
 35 40 45
 Ser Glu Phe Asp Asn Glu Val Ser Gln Met Val Glu Gln Lys Cys Phe
 50 55 60
 Glu Phe Leu Leu Leu
 65

<210> 10273
 <211> 163
 <212> PRT
 <213> B.fragilis

<400> 10273
 Val Met Asn Thr Leu Thr Ser Gln Ile Glu Gln Leu Gln Ser Leu Ala
 1 5 10 15
 His Glu Leu Leu Tyr Leu Gly Val Asp Gly Ala Pro Ile Tyr Thr Asp
 20 25 30
 His Phe Arg Gln Leu Asn Lys Glu Val Leu Glu Gln Ser Asp Ala Leu
 35 40 45
 Tyr Pro Gln Arg Gly Ala Thr Ser Glu Glu Glu Ala Asn Ile Cys Leu
 50 55 60
 Ala Leu Leu Met Gly Tyr Asn Ala Thr Ile Tyr Asn Gln Gly Asp Lys
 65 70 75 80
 Glu Glu Lys Lys Gln Val Val Leu Asn Arg Trp Trp Asp Val Leu Asp
 85 90 95
 Gln Thr Ser Gly Thr Leu Leu Lys Cys Gln Leu Val Thr Tyr Cys Tyr
 100 105 110
 Gly Gly Gly Val Glu Glu Glu Leu Gly Lys Glu Gly Pro Ser Phe Ile
 115 120 125
 Lys Lys Val Glu Arg Ile Arg Asn Phe Leu Lys Ile Lys Lys Arg Gln
 130 135 140
 Leu Ile Ile Leu Arg Lys Leu Gly Lys Lys Ile Leu Phe Ser Met Gly
 145 150 155 160
 Lys Gly Lys

<210> 10274
 <211> 174
 <212> PRT
 <213> B.fragilis

<400> 10274
 Met Ser Glu Gln Gln Lys Tyr Trp Phe Ala Ala Arg Thr Arg Asp Lys

6093 10272 10273 10274

1	5	10	15
Gln Glu Phe Ala Ile Arg Asp Ser Leu Glu Lys Leu Lys Thr Glu Leu			
20	25	30	
Asp Leu Asn Tyr Tyr Leu Pro Thr Gln Phe Val Ile Arg Gln Leu Lys			
35	40	45	
Tyr Arg Arg Lys Arg Val Glu Val Pro Val Ile Lys Asn Leu Ile Phe			
50	55	60	
Ile Gln Ala Thr Lys Gln Asp Ala Cys Asp Ile Ser Asn Lys Tyr Asn			
65	70	75	80
Ile Gln Leu Phe Phe Pro Lys Asp Leu Leu Thr Arg Ala Met Leu Ile			
85	90	95	
Val Pro Asp Lys Gln Met Gln Asp Phe Ile Phe Val Met Asp Leu Asp			
100	105	110	
Pro Asn Gly Val Ser Phe Asp Asn Asp His Leu Ser Val Gly Ser Arg			
115	120	125	
Val Gln Val Val Lys Gly Asp Phe Cys Gly Val Glu Gly Glu Leu Ala			
130	135	140	
Ser Glu Ala Asn Lys Thr Tyr Val Val Ile Arg Ile Ala Gly Val Leu			
145	150	155	160
Ser Ala Ser Val Lys Val Pro Lys Ser Tyr Leu Arg Val Ile			
165	170		

<210> 10275
 <211> 122
 <212> PRT
 <213> B.fragilis

<400> 10275
His Tyr Gly Arg Lys Lys Val Val Ile Ser Leu Asn Asp Asn Leu Val
1 5 10 15
Thr Ile Glu Val Asn Gly Lys Val Ile Phe Ala Gly Lys Ala Asp Leu
20 25 30
Gln Phe Ser Leu Asn Gln Lys Val Arg Glu Pro Leu Arg Ile Thr Lys
35 40 45
Gly Lys Gly Lys Leu Met Glu Ala Leu Thr Glu Ser Phe Ile Lys Gly
50 55 60
Gly Ile Asn Ser Met Glu Asn Arg Pro Ile Glu Glu Leu Gln Glu Thr
65 70 75 80
Ile Lys Glu Tyr Leu Thr Phe Glu Tyr Gln Arg Lys Gly Ile Ala Thr
85 90 95
Glu Pro Asn Lys Arg Ser Phe Leu Ser Glu Leu Lys Lys Tyr Ala Arg
100 105 110
Ala Phe Arg Lys Lys Arg Asp Glu Ser Glu
115 120

<210> 10276
 <211> 308
 <212> PRT
 <213> B.fragilis

<400> 10276
Thr Ser Leu Leu Thr Gln Lys Ala Ile Leu Met Lys Lys Thr Ile
1 5 10 15
Phe Leu Ile Leu Cys Ile Leu Cys Ser Leu Gly Ala Met Ala Gln Lys
20 25 30
Lys Ser Ile Thr Gly Val Val Thr Asp Ala Ser Gly Glu Ser Val Ile
35 40 45
Gly Ala Ser Val Val Glu Val Gly Thr Thr Asn Gly Val Ile Thr Asp
50 55 60

Ile Ser Gly Lys Phe Thr Leu Met Val Asp Pro Asn Gly Lys Ile Lys
 65 70 75 80
 Val Ser Tyr Val Gly Tyr Gln Pro Gln Val Leu Asp Val Lys Gly Lys
 85 90 95
 Asn Ser Phe Asn Ile Lys Leu Lys Glu Asp Ser Glu Met Leu Asp Glu
 100 105 110
 Val Val Val Thr Gly Tyr Gly Gly Lys Gln Leu Arg Thr Lys Val Thr
 115 120 125
 Asn Ser Ile Gly Lys Val Lys Glu Asp Val Leu Gln Lys Gly Leu Phe
 130 135 140
 Ser Asn Pro Ala Gln Ala Leu Ser Gly Ala Val Ser Gly Val Arg Val
 145 150 155 160
 Leu Gln Thr Ser Gly Asp Pro Gly Ala Thr Pro Thr Ile Ile Leu Arg
 165 170 175
 Gly Gly Thr Asp Tyr Asn Gly Thr Gly Ser Pro Leu Val Leu Val Asp
 180 185 190
 Gly Gln Val Arg Gly Ser Leu Ser Asp Ile Asn Pro Glu Asp Ile Glu
 195 200 205
 Ser Met Glu Val Leu Lys Asp Ala Gly Ala Thr Ala Ile Tyr Gly Ala
 210 215 220
 Arg Ala Asn Asn Gly Val Ile Leu Val Thr Thr Lys Arg Gly Lys Glu
 225 230 235 240
 Gly Lys Gly Glu Val Ser Val Lys Ala Lys Val Gly Ile Asn Tyr Tyr
 245 250 255
 Asn Asn Pro Tyr Glu Phe Met Asn Ala Arg Asp Tyr Ile Tyr Trp Met
 260 265 270
 Arg Thr Ala Tyr Gln Arg Ser Gly Gln Ile Tyr Lys Asp Ser Lys Gly
 275 280 285
 Asn Trp Val Gly Thr Ala Asp Met Asn Ser Leu Asn Asn Ala Thr Ser
 290 295 300
 Leu Trp Tyr Gly
 305

<210> 10277

<211> 268

<212> PRT

<213> B.fragilis

<400> 10277

Asn Ser Asn Lys Leu Val His Pro Asp Val His Phe Val Phe Pro Val
 1 5 10 15
 Val Lys Asn Gly Arg Ser Asp Asp Tyr Ile Val Glu Trp Arg Lys Leu
 20 25 30
 Val Leu Asn Asn Pro Tyr Phe Thr Ile Asn His Trp Leu Asn Glu Ile
 35 40 45
 Asn Ala Glu Asn Ala Gln Ala Val Ile Tyr Thr Lys Glu Ser Asp Glu
 50 55 60
 Ile Met Lys Lys Leu Ser Leu Lys Ser Ser Glu Gly Gly Phe Lys Ile
 65 70 75 80
 Thr Leu Leu Trp Leu Pro Glu Lys Met Gln Gln Ala Cys Ala Asn Lys
 85 90 95
 Leu Leu Lys Leu Leu Glu Glu Pro Pro Glu Lys Thr Ile Phe Leu Leu
 100 105 110
 Val Ser Glu Ala Pro Asp Leu Ile Leu Gln Thr Ile Leu Ser Arg Thr
 115 120 125
 Gln Arg Phe Asn Leu Arg Lys Ile Glu Glu Glu Cys Met Ala Glu Ala
 130 135 140
 Leu Gln Ser Lys Tyr Gly Val Gln Gln Ala Thr Ser Ile Ser Ile Ala
 145 150 155 160

His Leu Ala Asn Gly Asn Phe Ile Lys Ala Leu Glu Thr Ile His Leu
 165 170 175
 Asn Glu Glu Asn Gln Leu Phe Phe Glu Leu Phe Val Ser Leu Met Arg
 180 185 190
 Leu Ser Tyr Gln Arg Lys Ile Arg Glu Met Lys Leu Trp Ser Glu Gln
 195 200 205
 Val Ala Gly Met Gly Arg Glu Arg Gln Lys Asn Phe Leu Glu Tyr Cys
 210 215 220
 His Lys Glu Arg Phe Lys Ser Leu Pro Gly Arg Pro Val Asn Asp Phe
 225 230 235 240
 Arg Asn Tyr Met Thr Leu Glu Glu Gln Asn Phe Ala Thr Arg Phe Ala
 245 250 255
 Val Phe Thr Thr Gly Leu Gly Gly Ser Thr Leu Val
 260 265

<210> 10278
 <211> 73
 <212> PRT
 <213> B.fragilis

<400> 10278
 Leu Lys Ile Ala Ile Lys Ser Ile Lys Val Cys Ser Phe Val Tyr Ser
 1 5 10 15
 Phe Arg Arg Lys Leu Asn Arg Arg Lys Ile Arg Gln Phe Ser Leu Ala
 20 25 30
 Ala Gln Tyr Leu Lys Ile Gly Asn Met Pro Ile Met Leu Tyr Tyr Pro
 35 40 45
 Phe Gln Lys Gly Leu Ile Ile His Ala Arg Asn Gly Asn Ser Tyr His
 50 55 60
 Gly Thr Lys Ser Val Ala Tyr Phe Ile
 65 70

<210> 10279
 <211> 559
 <212> PRT
 <213> B.fragilis

<400> 10279
 Ile Met Lys Ala Lys Lys Tyr Asn Trp Thr Leu Arg His Ser Phe Leu
 1 5 10 15
 Leu Phe Leu Val Ile Phe Ile Ser Ser Cys Val Glu Asp Val Thr
 20 25 30
 Glu Ser Thr Lys Glu Pro Thr Arg Tyr Thr Ala Asn Asp Ile Lys Ser
 35 40 45
 Tyr Ser Asp Leu Phe Asp Val Phe Trp Asn Thr Met Asn Gln Lys Tyr
 50 55 60
 Asn Tyr Phe Tyr Glu Gln Ser Ser Phe Asn Trp Glu Thr Val Tyr Asn
 65 70 75 80
 Glu Tyr Ala Pro Lys Phe Lys Lys Leu Lys Thr Phe Asn Arg Asp Lys
 85 90 95
 Gln Tyr Ser Lys Ala Glu Ile Ser Glu Asp Cys Asn Lys Ala Ile Glu
 100 105 110
 Tyr Phe Thr Glu Ile Ile Asp Pro Ile Ile Asp Arg His Phe Tyr Val
 115 120 125
 Lys Ile Ser Leu Pro Val Ser His Ser Phe Ile Arg Asn Val Tyr Phe
 130 135 140
 His Gly Gly Met Lys Ser Lys Glu Lys Ile Tyr Thr Tyr Pro Phe Glu
 145 150 155 160
 Leu Lys Tyr Glu Tyr Met Arg Ser Lys Ile Gln Ser Glu Thr Gly Val

6096

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<210> 10280
<211> 171
<212> PRT
<213> B.fragilis
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Cys Phe Asn Phe Met Lys Lys Gly Ile Leu Phe Ile Ala Leu Phe Ala
1 5 10 15
Ala Ser Phe Gly Phe Met Gln Ser Ser Phe Ala Ala Pro Ser Met Ser

Ala	Asn	Ser	Ile	Thr	Asn	Val	Leu	Ala	Ile	Ser	Asp	Tyr	Glu	Gly	Thr
	35						40					45			
Tyr	Ser	Gly	Thr	Met	Asp	Asn	Ile	Ile	Met	Arg	Gly	Lys	Pro	Tyr	Glu
	50					55					60				
Ser	Arg	Ala	Ala	Thr	Tyr	Lys	Ile	Glu	Gly	Gly	Arg	Leu	Lys	Cys	Asp
65					70					75				80	
Phe	Pro	Gln	Ile	Gly	Ser	Met	Pro	Gly	Thr	Ile	Thr	Ile	Ser	Leu	Ala
			85						90					95	
Val	Glu	Val	Asp	Glu	Glu	Thr	Gly	Glu	Ile	Thr	Ala	Tyr	Asn	Gly	Asp
			100					105					110		
Glu	Ala	Gly	Thr	Leu	Ser	Leu	Pro	Leu	Gly	Ile	Lys	Val	Lys	Leu	Tyr
		115					120					125			
Leu	Asp	Asp	Leu	Arg	Asp	Ala	Lys	Ile	Thr	Asp	Asn	Gly	Ser	Ser	Lys
	130					135					140				
Gln	Ile	Glu	Phe	Thr	Leu	Asp	Val	Ser	Gly	Thr	Phe	Leu	Gly	Ala	Asn
145					150					155					160
Phe	Pro	Ala	Ser	Val	His	Phe	Val	Gly	Thr	Lys					
			165						170						

<210> 10281
 <211> 84
 <212> PRT
 <213> B.fragilis

<400> 10281

Thr	Leu	Lys	Lys	Arg	Pro	Met	Arg	Lys	Leu	Lys	Lys	Pro	Tyr	Ser	Gln
1				5					10					15	
Asn	Trp	Arg	Gly	Leu	Ser	Ala	Lys	Trp	Leu	Phe	Ile	Leu	Ser	Thr	Val
			20					25				30			
Leu	Gly	Ile	Ile	Ala	Gly	Thr	Cys	Phe	Trp	Ile	Phe	Ile	Ser	Arg	Cys
		35					40				45				
Gly	Asn	Glu	Glu	Cys	Phe	Leu	Asn	Tyr	Asp	Pro	Leu	Pro	Glu	Met	Phe
	50					55				60					
Ile	Gly	Gly	Val	Ile	Gly	Ala	Phe	Leu	Tyr	Val	Ile	Ile	Trp	Gly	Met
65					70					75				80	
Thr	Ser	Asp	Met												

<210> 10282
 <211> 498
 <212> PRT
 <213> B.fragilis

<400> 10282

Arg	Arg	Met	Lys	Arg	Val	Thr	Thr	Ile	Leu	Phe	Leu	Met	Leu	Leu	Ile
1				5					10					15	
Cys	Val	His	Thr	Ala	Ala	Gln	Gln	Lys	Val	Lys	Leu	Glu	Val	Leu	Glu
			20					25				30			
Lys	Gly	Thr	Glu	Gln	Pro	Ile	Ile	Ala	Ala	Asn	Val	Ile	Tyr	Ala	Asp
		35					40				45				
Asn	Glu	Ala	Leu	Arg	Asn	Pro	Gln	Tyr	Ala	Ile	Thr	Asn	Thr	Ser	Gly
	50				55						60				
Gln	Ala	Glu	Leu	Lys	Leu	Pro	Ser	Lys	Gly	Ile	Cys	Tyr	Tyr	Lys	Val
65					70					75				80	
Thr	Tyr	Ile	Gly	Tyr	Val	Pro	Val	Thr	Gly	Lys	Ile	Gly	Gly	Thr	Gln
			85						90					95	
Asp	Glu	Lys	Val	Ile	Tyr	Met	Lys	Glu	Asp	Asp	Leu	Gly	Ile	Asn	Glu
			100					105					110		

Val Val Val Thr Gly Ser Arg Thr Ala Arg Pro Ile Lys Met Ser Pro
 115 120 125
 Val Thr Thr Gln Val Leu Gly Gly Lys Ala Leu Val Asp Ala Gly Tyr
 130 135 140
 Ser Asn Leu Gln Gln Ala Leu Gln Gln Glu Thr Pro Gly Leu Asn Ile
 145 150 155 160
 Gln Lys Val Gly Phe Gly Asn Glu Ile Ser Met Gln Gly Leu Asp Ala
 165 170 175
 Arg His Val Leu Phe Leu Met Asp Gly Glu Arg Met Thr Gly Asp Met
 180 185 190
 Ala Gly Asn Leu Asp Tyr Glu Arg Phe Asn Leu His Ala Ile Asp Arg
 195 200 205
 Val Glu Ile Val Lys Gly Ala Ser Ser Thr Leu Tyr Gly Ser Arg Ala
 210 215 220
 Ala Gly Ala Val Ile Asn Leu Ile Thr Lys Lys Thr Asp Lys Pro Leu
 225 230 235 240
 Ser Ile Asp Ala Gly Ile Arg Tyr Gly Gln Met Asn Glu Arg Asn Tyr
 245 250 255
 Lys His Pro Gln Pro Lys Asp Phe Leu Tyr Met Phe Glu Gln Asn Ala
 260 265 270
 Asp Arg Pro Asn Leu Gln Ser Trp Val Ser Ala Gly Phe Lys Ala Gly
 275 280 285
 Lys Phe Thr Ser Gln Thr Asp Val Trp Tyr Ser Glu Ser Asp Ala Phe
 290 295 300
 Tyr Met Tyr Gln Ala Glu Asn Asp Lys Lys Val Tyr Thr Lys Glu Ala
 305 310 315 320
 Asn Pro Phe Leu Pro His Asp Ile Thr Val Val Ser Asn Ala Val Arg
 325 330 335
 Pro Pro Met Gly Ile Glu Gly Lys Glu His Ile Thr Val Ser Gln Lys
 340 345 350
 Leu Tyr Tyr Asn Pro Asn Pro Asn Leu Ser Val Leu Val Tyr Gly Ser
 355 360 365
 Ser Phe Phe Met Asn Thr Tyr Asp Leu Ile Gln Asp Met Met Phe Ser
 370 375 380
 Gln Ala Arg Asp Leu Thr Ala Gly Thr Lys Val Thr Tyr His Val Lys
 385 390 395 400
 Asp Trp Phe Ser Val Thr Gly Ser Leu His Ala Asp Phe Tyr Asp Arg
 405 410 415
 Phe Lys Arg His Glu Arg Ile Asp Lys Arg Gln Lys Asp Tyr Glu Ser
 420 425 430
 Ser Ile Tyr Gln Pro Arg Leu Thr Val Thr Ser Asn Tyr Phe Asn Gly
 435 440 445
 His Ser Leu Ile Leu Gly Met Glu His Thr Ser Asp Glu Leu Thr Ser
 450 455 460
 Asp Arg Phe Ser Gly Asn Ala Asn His Asp Leu Lys Thr Arg Ala Leu
 465 470 475 480
 Lys Glu Thr Glu Tyr Phe Leu Ser Ser Leu Met Ala Glu Arg Pro Ser
 485 490 495
 Phe Pro

<210> 10283

<211> 60

<212> PRT

<213> B.fragilis

<400> 10283

Arg Pro Phe Asp Lys Leu Glu Arg Leu Ser Ser Ser Pro Val Val Lys
 1 5 10 15

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<210> 10284
<211> 65
<212> PRT
<213> B.fragilis
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[illegible]

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<210> 10285
<211> 931
<212> PRT
<213> B.fragilis
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Phe	Cys	Val	Cys	Leu	Val	Phe	Phe	Gly	Met	Asn	Ile	Arg	Met	Asn	Ile
1				5					10					15	
Leu	Leu	Cys	Phe	Leu	Trp	Leu	Phe	Ser	Ala	Thr	Leu	Ser	Ala	Gln	Gln
			20					25					30		
Val	Lys	Ile	Val	Lys	Gly	His	Val	Cys	Val	Leu	Ser	Glu	Asp	Ser	Ile
		35					40					45			
Glu	Arg	Ser	Leu	Pro	Tyr	Ala	Ser	Val	Val	Val	Leu	Glu	Gly	Lys	Asp
	50					55				60					
Ser	Ala	Phe	Val	Lys	Gly	Met	Ala	Ser	Asp	Ala	Asn	Gly	Ser	Phe	Lys
65				70					75					80	
Leu	Glu	Phe	Ile	Pro	Gln	Lys	Arg	Met	Glu	Tyr	Leu	Leu	Arg	Ile	Ser
			85					90						95	
Tyr	Ile	Gly	Met	Ser	Thr	Ile	Phe	Arg	Lys	Leu	Asp	Pro	His	Met	Met
		100						105					110		
Asp	Ile	Asp	Cys	Gly	His	Ile	Leu	Met	Glu	Ser	Gly	Ile	Lys	Leu	Ala
		115					120					125			
Glu	Val	Leu	Val	Thr	Ala	Pro	Val	Lys	Glu	Ile	Asp	Met	Ala	Gly	Asp
	130					135					140				
Thr	Thr	Val	Ile	Asn	Ala	Asp	Ala	Tyr	Arg	Thr	Pro	Glu	Gly	Ser	Asn
145				150						155					160
Leu	Glu	Glu	Leu	Val	Arg	Lys	Ile	Pro	Gly	Leu	Glu	Tyr	Asp	Asp	Arg
			165					170						175	
Ser	Lys	Ser	Leu	Ser	Tyr	Asn	Gly	Leu	Val	Ile	Ser	Glu	Ile	Asn	Val
		180						185					190		
Asn	Gly	Glu	Ala	Phe	Phe	Ser	Gly	Asn	His	Val	Leu	Ala	Leu	Glu	Asn
		195					200					205			
Leu	Pro	Ala	Asp	Leu	Ile	Ser	Arg	Ile	Lys	Val	Tyr	Asp	Lys	Arg	Ser
	210					215					220				
Glu	Met	Glu	Lys	Phe	Thr	Gly	Val	Arg	Thr	Val	Asp	Glu	Asn	Tyr	Val

225		230		235		240
Leu Asp Leu Gln Thr	Lys Lys Glu Leu Asn Gly Thr	Leu Ile Thr Ser				
	245		250		255	
Val Ala Val Gly Lys Gly Asn Lys	Lys Lys Lys Glu Ala Glu Leu Ile					
	260		265		270	
Ser Asn Phe Phe Lys Ala Asp Gly	Glu Asn Leu Ser Val Ile Ala Lys					
	275		280		285	
Ser Gly Asn Arg Asp Ile Thr Thr	Glu Asn Lys Lys Asn Arg Gln Asp					
	290		295		300	
Asn Ile Ala Val Asn Phe Leu Lys Lys	Phe Gly Glu Thr Val His Ile					
305		310		315		320
Asn Gly Asn Ile Met Tyr Asn Asn Ala	Ile Asn Gly Ile Asn Gly Thr					
	325		330		335	
Ser Tyr Tyr Glu Gln Tyr Leu Met Thr	Gly Asn Arg Tyr Arg Tyr Ala					
	340		345		350	
Thr Asp Asn Gly Tyr His Thr Asn Arg	Met Ile Ser Ala Met Leu Ser					
	355		360		365	
Ala Arg Trp Asn Ile Asp Lys Lys Thr	Leu Leu Asn Ile Ser Gly Ser					
	370		375		380	
Phe Asn Ala Leu Lys Gly Ile Asn Asp	Asp Ser Asn Arg Gln Ala Thr					
385		390		395		400
Tyr Asn Ala Asp Pro Lys Leu Asp Val	Thr Ser Pro Phe Asn Arg Asp					
	405		410		415	
Ala Ser Glu Gln Ile Glu Asp Ser Ile	Arg Val Asn Asp Ile Cys Met					
	420		425		430	
Thr Ser Arg Ser Ser Ser Ile Asn Arg	Leu Tyr Ser Ile Gly Ala Asp					
	435		440		445	
Ile Thr Arg Arg Leu Asn Ala Lys Gly	Thr Ser Leu Gly Leu Thr Val					
	450		455		460	
Gln Tyr Ser Glu Glu Arg Gly Asn Asn	Lys Ala Phe Ser Leu Ser Ser					
465		470		475		480
Thr Thr Tyr Tyr Gln Leu Gln Asn Val	Lys Gly Asn Asp Ser Ile Leu					
	485		490		495	
Tyr Arg Asn Gln Tyr Gln Glu Ser Pro	Asn Arg Asn Arg Thr Ile Lys					
	500		505		510	
Leu Gly Leu Ile Leu Thr Gln Ile Leu	Arg Lys Asn Leu Arg Ala Gln					
	515		520		525	
Leu Ser Tyr Ile Phe Lys Leu Asp Asn	Gln Ser Arg Asp Arg Asn Thr					
	530		535		540	
Tyr Val Leu Ser Pro Val Val Asp Gly	Glu Glu His Thr Pro Thr Gly					
545		550		555		560
Asn Phe Pro Lys Gly Tyr Glu Val Glu	Tyr Thr Asp Ser Leu Ser Asn					
	565		570		575	
Lys Ser Arg Ser His Thr Met Ala His	Gly Val Ser Leu Asn Leu Asn					
	580		585		590	
Tyr Thr Asp Lys Thr Trp Glu Ile Thr	Thr Gly Leu Ser Val Thr Pro					
	595		600		605	
Lys Arg Gln Thr Leu Gly Gln Lys Thr	Gly Trp Thr Gln Ala Asp Thr					
	610		615		620	
Leu Arg Tyr Ser Val Asn Tyr His Pro	Thr Leu Thr Ile Leu Trp Arg					
625		630		635		640
Lys Arg Lys Thr Trp Val Gln Leu Ser	Tyr Glu Gly Asn Thr Gln Gln					
	645		650		655	
Pro Gly Leu Ala Glu Leu Leu Thr Leu	Thr Asp Asn Ser Asp Pro Leu					
	660		665		670	
Asn Ile Ile Arg Gly Asn Pro Asp Leu	Lys Ser Ser Tyr Thr Gln Lys					
	675		680		685	
Val Arg Leu Glu Val Arg Asp Thr Lys	Thr Gly Leu Ser Gly Asp Val					
	690		695		700	

Asn Trp Thr Ser Met Leu Asn Asn Val Thr Arg Ala Val Ile Tyr Asp
 705 710 715 720
 Ser Gln Thr Gly Gly Ile Glu Ser Arg Pro Val Asn Val Asn Gly Asn
 725 730 735
 Trp Asn Ile Lys Ala Ala Met Arg Tyr Gln Lys Arg Ile Asn His Tyr
 740 745 750
 Phe Asn Leu Ser Ala Arg Thr Gly Thr Ser Phe Ile Gln Ser Val Ser
 755 760 765
 Leu Val Asn Asp Gly Gln Arg Glu Gln Pro Glu Arg Ser Val Thr His
 770 775 780
 Asn Arg Leu Tyr Asn Ala Gly Leu Arg Val Gly Tyr Gln Pro Lys Trp
 785 790 795 800
 Gly Gly Phe Asp Leu Ser Gly Asp Trp Arg Phe Arg His Ser Thr Asn
 805 810 815
 Leu Leu Arg Glu Thr Asn Asn Tyr Ile Arg Asp Tyr Ser Phe Gly Leu
 820 825 830
 Thr Ala Tyr Ala Val Phe Pro Gly Asn Ile Arg Leu Lys Ser Glu Thr
 835 840 845
 Thr His Thr Phe Arg Asn Gly Thr Asn Ile Asn Arg Ser Glu Asp Asn
 850 855 860
 Glu Val Val Trp Asn Leu His Leu Ser Trp Ser Phe Leu Lys Tyr Lys
 865 870 875 880
 Lys Ala Glu Phe Ser Val Tyr Trp Ala Asp Ile Leu Ser Gln Lys Lys
 885 890 895
 Ser Tyr Ser Arg Asn Val Thr Ser His Gly Leu Ser Glu Arg Tyr Thr
 900 905 910
 Gln Gln Ile Gly Ser Tyr Phe Ile Val Ser Phe Lys Tyr Arg Phe Asn
 915 920 925
 Arg Gln Leu
 930

<210> 10286
 <211> 278
 <212> PRT
 <213> B.fragilis

<400> 10286
 Ile Asn Leu Leu Leu Glu Ala Lys Gln Tyr Cys Ile Asp Leu Val Tyr
 1 5 10 15
 Tyr Asn Gly Leu Lys Lys Glu Leu Lys Val Arg Leu Arg His Ala Gln
 20 25 30
 Ala Ile Ala Asp Ala Tyr Arg Gln Arg Leu Asp Arg Gly Asp Ala Ser
 35 40 45
 Ile Leu Glu Tyr Asn Lys Val Gln Leu Asn Leu Ser Thr Val Gln Gly
 50 55 60
 Glu Met Ser Arg Ile Glu Val Glu Arg Asn Ala Leu Leu Ser Glu Leu
 65 70 75 80
 Lys Arg Leu Asn Gly Gly Met Asp Val Ile Phe Glu Ala Ser Asn Tyr
 85 90 95
 Ser Pro Ala Ser Leu Pro Val Asn Phe Glu Asp Trp Tyr Leu Ser Ala
 100 105 110
 Gln Gln Lys Asn Pro Leu Leu Gln Tyr Val Lys Gln Gln Ile Glu Val
 115 120 125
 Ser Lys Glu Gln Val Lys Leu Gly Lys Ala Met Thr Leu Pro Lys Phe
 130 135 140
 Ser Ala Gly Tyr Ser Leu Glu Arg Thr Leu Gly Gln Lys Tyr Gln Gly
 145 150 155 160
 Ile Ser Val Gly Ile Ser Ile Pro Leu Trp Glu Asn Lys Asn Arg Val
 165 170 175

10286
 278
 PRT
 B.fragilis

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<210> 10287
<211> 249
<212> PRT
<213> B.fragilis
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[illegible]

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<211> 228
<212> PRT
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[illegible]

<211> 475

<212> PRT

<213> B.fragilis

Cys 1	Asn	Glu	Met	Asn 5	Asn	Leu	Arg	Asn	Tyr 10	Leu	Gly	Leu	Ser	Ala 15	Leu
Thr	Met	Gly	Leu 20	Cys	Leu	Met	Ser	Cys 25	Asn	Asp	Asp	Asn	Thr 30	Pro	Ser
Tyr	Ser	Gln 35	Thr	Thr	Met	Lys	Asn 40	Ser	Glu	Leu	Lys	Thr 45	Ile	Leu	Gln
Gln	Lys 50	Gly	Tyr	Gln	Phe	Asn 55	Glu	Gln	Gly	Asn	Leu 60	Leu	Leu	Asp	Asp
Leu 65	Ala	Asn	Asn	Thr	Thr 70	Thr	Leu	Asp	Leu	Ser 75	Gly	Thr	Lys	Leu	Ser 80
Asn	Leu	Ser	Glu	Leu 85	Asp	Ile	Leu	Pro	Asn 90	Leu	Thr	Glu	Val	Lys 95	Leu
Ser	Asp	Asn	Asp 100	Tyr	Gly	Pro	Val	Phe	Asp 105	Phe	Ser	Lys	Leu	Pro	Lys
Gln	Ile	Thr 115	Gly	Ile	Asp	Leu	Thr 120	Gly	Asn	Asp	Ile	Tyr 125	Asp	Tyr	Asp
Asn	Leu 130	Val	Asn	Val	Val	Val 135	Glu	Glu	Asn	Gly	Asn 140	Glu	Thr	Val	Thr
Asn 145	Leu	His	Asp	Ile	Thr 150	Lys	Leu	Tyr	Leu	Pro 155	Arg	Thr	Ala	Lys	Asp
Asn	Ile	Lys	Asp	Leu	Val	Arg	Phe	Tyr	Ile	Lys	Asn	Lys	Asp	Ala	Ile

165 170 175
 Thr Asn Gly Lys Ile Asp Met Lys Ile Lys Asp Glu Ser Gly Thr Leu
 180 185 190
 Gln Thr Tyr Thr Thr Leu Arg Glu Val Pro Asp Glu Asn Leu Arg Thr
 195 200 205
 Tyr Leu Gln Ala Asn Phe Ser Asp Leu Phe Asn Gly Asp Gln Ile Asp
 210 215 220
 Leu Ser Lys His Leu Gly Tyr Ala Gln Lys Thr Thr Ile Leu Leu Ile
 225 230 235 240
 Gln Ala Asn Ala Gly Val Thr Asn Phe Glu Gly Ile Gln Tyr Ile Ile
 245 250 255
 Gln Asn Pro Tyr Trp Glu Gly Ala Ala Val Ala Leu Tyr Ser Ala Ala
 260 265 270
 Gln Ser Gly Ala Asn Met Pro Ser Val Lys Leu Gly Lys Tyr Val Thr
 275 280 285
 Asn Leu Val Leu Asn Asn Leu Asn Val Arg Ser Leu Asp Leu Ser Asn
 290 295 300
 Ala Gly Ser Leu Phe Val Leu Asn Ile Gly Thr Val Ala Gly Leu Ser
 305 310 315 320
 Thr Leu Asp Leu Thr His Thr Ile Trp Gly Gln Arg Glu Lys Glu Ile
 325 330 335
 Glu Ala Glu Glu Ser Lys Gly Ser Tyr Leu Ile Val Tyr Asp Cys Pro
 340 345 350
 Ser Leu Lys Glu Ile Lys Leu Pro Lys Lys Asp Glu Leu Lys Thr Cys
 355 360 365
 Phe Leu Asp Leu Glu Cys Leu Asp Ala Leu Glu Thr Phe Asp Ile Ser
 370 375 380
 Asn Leu Lys Met Val Lys Asn Leu Ile Phe Gly Asn Leu Pro Glu Asn
 385 390 395 400
 Phe Asn Leu Val Tyr Pro Glu Leu Thr Val Phe Tyr Ser Pro Glu Gly
 405 410 415
 Arg Ser Ala Thr Ser Phe Cys Cys Ser Glu Ser Thr Phe Asn Arg Glu
 420 425 430
 Ser Thr Lys Thr Phe Leu Asp Arg Tyr Tyr Thr Lys Gly Thr Gly Val
 435 440 445
 Glu Lys Leu Gly Phe Ser Ile Ser Met Ser Cys Asn Lys Asn Asp Gly
 450 455 460
 Tyr Asn Trp Arg Lys Ala Leu Lys Lys Lys Ser
 465 470 475

<210> 10290

<211> 77

<212> PRT

<213> B.fragilis

<400> 10290

Arg Gln Ser Ser His Gly Tyr Asn Ala Phe Tyr Arg Thr Arg His Leu
 1 5 10 15
 Asp Gly Ile Pro Phe Asn Lys Ser Phe Lys Phe Asp Ile Glu Met Leu
 20 25 30
 Gly Trp Lys Arg Gly Glu Ala Asp Tyr Ala Thr Thr Ile Tyr Trp Tyr
 35 40 45
 Gly Asp Pro Glu Ala Gln Val Phe Gly Thr Ser Gly Ile Glu Glu Ala
 50 55 60
 Arg Arg Gln Leu Leu Pro Ala Val Glu Ala Ser Ala Asp
 65 70 75

<210> 10291

<211> 394

<212> PRT

<213> B.fragilis

<400> 10291

Leu Val Asn Met Lys His Glu Arg Pro Cys Leu Val Ala Ser Gly Ser
 1 5 10 15
 Asp Trp Leu Gln Glu Val Leu Arg Arg Leu Leu Val Trp Val Val Val
 20 25 30
 Leu Ser Ser Gly Thr Leu Met Ala Tyr Ala Gly Asn Leu Asp Ile Ser
 35 40 45
 Gln Thr Lys Val Ile Thr Gly Thr Val Thr Glu Lys Glu Thr Gly Asp
 50 55 60
 Pro Leu Ile Gly Val Asn Val Ser Val Lys Gly Thr Ser Lys Gly Thr
 65 70 75 80
 Ile Thr Asn Leu Asn Gly Gln Tyr Ser Val Asp Val Asn Ser Asp Lys
 85 90 95
 Asp Ile Leu Val Phe Ser Phe Ile Gly Lys Ala Thr Gln Glu Lys Ala
 100 105 110
 Val Lys Gly Leu Ser His Ile Asp Val Val Met Ala Asp Asp Ala Thr
 115 120 125
 Met Leu Gly Glu Val Val Ile Gln Thr Gly Tyr Met Thr Gln Arg Lys
 130 135 140
 Ala Asp Leu Thr Gly Ser Val Ala Met Ala Asn Thr Ser Asp Leu Ala
 145 150 155 160
 Gln Asn Pro Ser Thr Asn Ala Leu Lys Ser Leu Gln Gly Lys Leu Pro
 165 170 175
 Gly Val Phe Ile Thr Thr Asp Gly Ser Pro Gly Gly Asn Ala Ser Ile
 180 185 190
 Gln Ile Arg Gly Leu Thr Ser Leu Asn Ala Gln Pro Asn Pro Leu Ile
 195 200 205
 Val Leu Asp Gly Leu Ala Gly Asp Tyr Asn Leu Arg Asp Ile Asn Pro
 210 215 220
 Ala Asn Ile Glu Ser Ile Gln Val Leu Lys Asp Ala Ala Ser Ala Ser
 225 230 235 240
 Ile Tyr Gly Ser Arg Ala Ala Gly Gly Val Ile Ile Ile Glu Thr Lys
 245 250 255
 Lys Gly Lys Lys Gly Glu Ser Lys Ile Ser Tyr Glu Gly Arg Val Gln
 260 265 270
 Phe Ser Lys Trp Val Asn Lys Pro Asp Leu Leu Asn Thr Asp Glu Tyr
 275 280 285
 Gly Arg Ala Ile Trp Gln Ala Tyr Ala Asn Asp Asp Lys Leu Gly Glu
 290 295 300
 Ile Lys Gln Ser Val Arg Phe Phe Asp Tyr Asp Trp Ser Tyr Asp Ser
 305 310 315 320
 Asn Gly Tyr Pro Val Leu Asn Ser Val Lys Pro Val Glu Trp Leu Asn
 325 330 335
 Thr Ala Gln Thr Met Arg Ser Ala Asp Thr Asn Trp Ile Asp Glu Ile
 340 345 350
 Ser Arg Thr Gly Val Ser Gln Asn His Gln Ile Ser Val Ser Ser Gly
 355 360 365
 Thr Asp Lys Ser Arg Thr Phe Phe Asn Leu Gly Tyr Glu Asn Thr Glu
 370 375 380
 Gly Ile Gln Ile Glu Thr Phe Trp Lys Asn
 385 390

<210> 10292

<211> 63

<212> PRT

<213> B.fragilis

Arg	Gln	Val	Ser	Ser	Leu	His	Cys	Asp	Thr	Pro	Met	Val	Tyr	Arg	Gly
1				5					10					15	
Ala	Ser	Gly	Leu	His	Glu	Thr	Ser	Ser	Pro	Asp	Ser	Ile	Ser	Pro	Ser
			20					25					30		
Lys	Lys	Ser	Ile	Arg	Phe	Met	Val	Gly	Tyr	Tyr	Ile	Lys	Gly	Ser	Gly
		35				40						45			
Gly	Lys	Tyr	Asn	Asn	Phe	Pro	Pro	Glu	Ser	Pro	Thr	Cys	Leu	Val	
	50					55					60				

<213> B.fragilis

Glu	Met	Glu	Thr	Phe	Tyr	Arg	Thr	His	Ala	Tyr	Leu	Val	Glu	His	Thr
1				5					10					15	
Asn	Ala	Pro	Val	Arg	Arg	Asp	Leu	Met	Asp	Glu	Ile	Asn	Trp	Ser	Asp
			20					25					30		
Arg	Leu	Ile	Gly	Ile	Lys	Gly	Thr	Arg	Gly	Val	Gly	Lys	Thr	Thr	Phe
		35					40					45			
Leu	Leu	Gln	Tyr	Ala	Lys	Glu	Lys	Phe	Gly	Thr	Asp	Arg	Ser	Cys	Leu
	50					55					60				
Phe	Ile	Asn	Met	Asn	Asn	Phe	Tyr	Phe	Ser	Gly	His	Ser	Ile	Val	Asp
65				70						75				80	
Phe	Ala	Asn	Glu	Phe	Gln	Lys	Arg	Gly	Gly	Lys	Val	Leu	Leu	Ile	Asp
				85					90					95	
Gln	Val	Phe	Lys	His	Pro	Asp	Trp	Ser	Arg	Glu	Leu	Arg	Met	Cys	Tyr
			100					105					110		
Asp	Arg	Phe	Pro	Asn	Leu	Lys	Ile	Val	Phe	Thr	Gly	Ser	Ser	Val	Met
		115					120					125			
Arg	Leu	Lys	Glu	Glu	Asn	Leu	Glu	Leu	Arg	Asp	Ile	Val	Lys	Ser	Tyr
	130					135					140				
Asn	Leu	Arg	Gly	Phe	Ser	Phe	Arg	Glu	Phe	Leu	Asn	Leu	Gln	Thr	Gly
145				150						155				160	
Met	Lys	Phe	Arg	His	Tyr	Thr	Leu	Glu	Glu	Ile	Leu	Ser	Ser	His	Glu
				165					170					175	
Gln	Ile	Ala	Lys	Gly	Val	Leu	Ser	Lys	Val	Arg	Pro	Leu	Asp	Tyr	Phe
		180						185				190			
Gln	Asp	Tyr	Leu	His	His	Gly	Phe	Tyr	Pro	Phe	Phe	Leu	Glu	Lys	Arg
		195				200						205			
Asn	Phe	Ser	Glu	Asn	Leu	Leu	Lys	Thr	Met	Asn	Met	Met	Val	Glu	Val
	210					215					220				
Asp	Ile	Leu	Leu	Ile	Lys	Gln	Ile	Glu	Leu	Lys	Tyr	Leu	Ser	Lys	Ile
225				230						235				240	
Lys	Lys	Leu	Leu	Tyr	Leu	Leu	Ala	Val	Asp	Gly	Pro	Lys	Ala	Pro	Asn
				245					250					255	
Val	Ser	Gln	Leu	Ala	Ser	Asp	Ile	Gln	Thr	Ser	Arg	Ala	Thr	Val	Met
		260						265					270		
Asn	Tyr	Ile	Lys	Tyr	Leu	Ala	Asp	Ala	Arg	Leu	Ile	Asn	Leu	Val	Tyr
		275					280					285			
Pro	Lys	Gly	Glu	Glu	Phe	Pro	Lys	Lys	Pro	Ser	Lys	Ile	Met	Leu	His
	290					295					300				
Asn	Pro	Asn	Leu	Met	Tyr	Ser	Ile	Tyr	Pro	Val	Lys	Val	Glu	Glu	Gln
305				310						315				320	
Asp	Val	Leu	Asp	Thr	Phe	Phe	Val	Asn	Thr	Met	Trp	Lys	Asp	His	Lys
				325					330					335	

Val His Lys Gly Asp Lys Asn Thr Ser Phe Met Val Asp Glu Val Met
 340 345 350
 Pro Phe Lys Ile Cys Cys Glu Gly Ala Lys Ile Lys Asn Asn Pro Gly
 355 360 365
 Val Thr Tyr Ala Leu His Lys Ala Glu Ile Gly Arg Gly Asn Gln Ile
 370 375 380
 Pro Leu Trp Met Phe Gly Phe Leu Tyr
 385 390

<210> 10294

<211> 492

<212> PRT

<213> B.fragilis

<400> 10294

Glu Asp Arg Ala Gly Arg Gly Thr Ser Leu Leu Phe Leu Phe Leu Leu
 1 5 10 15
 Ser Leu Leu Pro Leu His Ala Gln Thr Ser Pro Lys His Glu Val Arg
 20 25 30
 Ala Ala Trp Ile Thr Ala Val Tyr Gly Leu Asp Trp Pro Arg Thr Lys
 35 40 45
 Ala Thr Thr Pro Ala Gly Ile Arg Arg Gln Lys Glu Glu Leu Ile Asp
 50 55 60
 Ile Leu Asp Arg Leu Lys Glu Ala Asn Phe Asn Thr Val Leu Phe Gln
 65 70 75 80
 Thr Arg Thr Arg Gly Asp Val Leu Tyr Arg Ser Asp Ile Glu Pro Phe
 85 90 95
 Asn Ser Ile Leu Thr Gly Lys Thr Gly Gly Asp Pro Gly Tyr Asp Pro
 100 105 110
 Leu Ala Phe Ala Val Glu Glu Cys His Lys Arg Gly Met Glu Cys His
 115 120 125
 Ala Trp Met Val Thr Ile Pro Leu Gly Gly Lys Lys His Val Ala Ser
 130 135 140
 Leu Gly Lys Gln Ser Val Thr Arg Arg Glu Arg Asp Ile Cys Val Pro
 145 150 155 160
 Tyr Lys Asn Glu Tyr Phe Leu Asn Pro Gly His Pro Ala Thr Lys Glu
 165 170 175
 Tyr Leu Met Lys Leu Val Arg Glu Val Ser Arg Tyr Asp Val Asp
 180 185 190
 Gly Val His Phe Asp Tyr Leu Arg Tyr Pro Glu Asn Ala Pro Arg Phe
 195 200 205
 Pro Asp Ser Tyr Asp Phe Arg Arg Tyr Gly Lys Gly Arg Thr Leu Ala
 210 215 220
 Gln Trp Arg Arg Asp Asn Leu Thr Asp Ile Val Arg Tyr Ile Tyr Asn
 225 230 235 240
 Gly Val Lys Ala Met Lys Pro Trp Val Lys Val Ser Thr Cys Pro Val
 245 250 255
 Gly Lys Tyr Arg Asp Thr Ser Arg Tyr Ser Ser Lys Gly Trp Asn Ala
 260 265 270
 Phe Phe Thr Val Tyr Gln Asp Pro Gln Gly Trp Leu Gly Glu Gly Ile
 275 280 285
 Gln Asp Gln Ile Tyr Pro Met Met Tyr Phe Arg Gly Asn Gly Phe Tyr
 290 295 300
 Pro Phe Ala Leu Asp Trp Gln Glu Gln Ser Asn Gly Arg His Ile Val
 305 310 315 320
 Pro Gly Leu Gly Ile Tyr Phe Leu His Pro Asp Glu Gly Asn Trp Thr
 325 330 335
 Thr Glu Glu Val Glu Arg Gln Met His Phe Ile Arg Ser Asn Arg Leu
 340 345 350

6108 10294 492 PRT B.fragilis

Ala Gly Glu Ala His Tyr Arg Val Lys Tyr Leu Met Asp Asn Thr Gln
 355 360 365
 Gly Val Tyr Asp Leu Leu Leu Asp His Phe Tyr Gln Tyr Pro Ala Leu
 370 375 380
 Gln Pro Pro Met Pro Trp Ile Asp Asn Val Ser Pro Thr Ala Pro Ser
 385 390 395 400
 Ala Leu Lys Ala Val Ser Ala Gly Asp Gly Tyr Thr Arg Leu Asn Trp
 405 410 415
 Lys Ala Ala Thr Asp Asn Asp Lys Gln Asn Ala Pro Met Tyr Val Val
 420 425 430
 Tyr Ala Ser Asp Thr Tyr Pro Val Asp Ile Thr Asn Pro Glu Asn Ile
 435 440 445
 Leu Val Gln Asn Leu Arg Asp Thr His Tyr Ile Tyr Ala Pro Ile Arg
 450 455 460
 Pro Trp Thr Ala Arg Lys Tyr Phe Ala Val Thr Ala Val Asp Arg Cys
 465 470 475 480
 Gly Asn Glu Ser Lys Ala Ala Gln Gln Glu Glu Lys
 485 490

<210> 10295

<211> 301

<212> PRT

<213> B.fragilis

<400> 10295

Lys Leu Ile His Thr Met Asn Ser Ile Ile Val Gly Met Gly Glu Ala
 1 5 10 15
 Leu Trp Asp Val Leu Pro Glu Gly Lys Lys Ile Gly Gly Ala Pro Ala
 20 25 30
 Asn Phe Ala Tyr His Val Ser Gln Phe Gly Phe Asp Ser Arg Val Val
 35 40 45
 Ser Ala Val Gly Asn Asp Glu Leu Gly Asp Glu Ile Leu Glu Ile Phe
 50 55 60
 Arg Glu Lys Gln Leu Lys His Gln Leu Glu Arg Val Asn Tyr Pro Thr
 65 70 75 80
 Gly Thr Val Gln Val Thr Leu Asp Asn Gly Gly Val Pro Cys Tyr Asp
 85 90 95
 Ile Lys Glu Gly Val Ala Trp Asp Asn Ile Pro Phe Thr Asp Asp Leu
 100 105 110
 Lys Arg Leu Ala Leu Ser Thr Arg Ala Val Cys Phe Gly Ser Leu Ala
 115 120 125
 Gln Arg Asp Glu Val Ser Arg Ala Thr Ile Asn Arg Phe Leu Asp Thr
 130 135 140
 Met Pro Asp Met Glu Gly Gln Leu Lys Ile Phe Asp Ile Asn Leu Arg
 145 150 155 160
 Gln Asn Phe Tyr Thr Lys Glu Val Leu Arg Glu Ser Phe Arg Lys Cys
 165 170 175
 Asn Val Leu Lys Ile Asn Asp Glu Glu Leu Ile Leu Ile Ser Arg Met
 180 185 190
 Phe Gly Tyr Pro Gly Ile Asp Leu Gln Asp Lys Cys Trp Ile Leu Leu
 195 200 205
 Ala Lys Tyr Asn Leu Lys Met Leu Ile Leu Thr Cys Gly Thr Asn Gly
 210 215 220
 Ser Tyr Val Phe Thr Pro Gly Thr Val Ser Phe Gln Glu Thr Pro Lys
 225 230 235 240
 Val Pro Val Ala Asp Thr Val Gly Ala Gly Asp Ser Phe Thr Ala Ala
 245 250 255
 Phe Cys Ser Ser Val Leu Lys Gly Lys Ser Ile Pro Glu Ala His Arg
 260 265 270

Leu Ala Val Glu Val Ser Ala Tyr Val Cys Thr Gln Ser Gly Ala Met
 275 280 285
 Pro Val Leu Pro Glu Ala Leu Arg Asn Arg Leu Asn Asp
 290 295 300

<210> 10296
 <211> 768
 <212> PRT
 <213> B.fragilis

<400> 10296

Thr Lys Asn Lys Pro Asn Lys Arg Thr Thr His Arg Met Lys Ser Met
 1 5 10 15
 Arg Ser Ile His Ser Leu Ile Arg Cys Cys Met Ile Leu Leu Leu Leu
 20 25 30
 Thr Ser Cys Tyr Ser Lys Glu Glu Arg Arg Val Leu Val Ile His Ser
 35 40 45
 Tyr Glu Lys Asp Tyr Gln Gly Tyr Ala Glu Phe Asn Lys Leu Ile Lys
 50 55 60
 Lys Glu Phe Ala Lys Ala His Ile Pro Val Glu Leu Thr Phe Phe Tyr
 65 70 75 80
 Leu Asn Cys Glu Ile Asn Asn Glu Gln Gln Glu Ile Asp Lys Ile Asn
 85 90 95
 Asn Phe Leu Asp Ser Ile Ser Lys Trp Lys Pro Glu Val Leu Leu Val
 100 105 110
 Asn Asp Asp Gln Ala Thr Tyr Ser Leu Leu Glu Thr His His Pro Leu
 115 120 125
 Leu Lys Gly Ile Pro Ile Val Phe Ser Gly Val Asn Tyr Pro Asn Trp
 130 135 140
 Glu Leu Ile Gly Gln Tyr Asn Asn Val Thr Gly Phe His Asp Lys Ile
 145 150 155 160
 Asp Phe Arg Lys Asn Leu Glu Met Val His Lys Leu Thr Gly Lys Asn
 165 170 175
 His Ile Tyr Thr Ile Leu Asp Phe Thr Phe Leu Asp Arg Lys Val Arg
 180 185 190
 Asn Asp Ile Asp Asn Gln Leu Lys Ser Thr Asp Ile Ile Ser Asn Leu
 195 200 205
 Asp Trp His Leu Asp Lys Asn Asp Thr Arg Lys Glu Ala Glu Lys Gly
 210 215 220
 His Ile Ile Ile Asn Ala Leu Ser Ala Arg Asn Leu Ser Lys Asn Gln
 225 230 235 240
 Asn Lys Asp Gln Thr Lys Gly Gly Asp Phe Ile Trp Ser Ile Ser Lys
 245 250 255
 Tyr Ser Thr Leu Pro Tyr Leu Gln Thr Lys Phe Asp Tyr Thr Thr Val
 260 265 270
 Thr Met Ala Ser Leu Ser Thr Arg Gln Arg Phe Thr Thr Ile Asn Glu
 275 280 285
 Leu Phe Asp Cys Gly Arg Asp Phe Leu Gly Gly Tyr Ile Thr Pro Met
 290 295 300
 His Ile Gln Val Glu Glu Ser Val His Ala Ala Ala Arg Ile Leu Asn
 305 310 315 320
 Gly Glu Asn Val Ala Asp Ile Pro Ile Gln Glu Ser Ala Lys Gly Tyr
 325 330 335
 Phe Ile Asp Trp Asn Ala Met Gln Lys Glu His Leu Thr Ile Ala Asp
 340 345 350
 Ile Pro His Glu Tyr Thr Ile Ile Asn Ile Pro Phe Lys Thr Arg His
 355 360 365
 Pro Ile Val Trp Trp Phe Ala Leu Leu Gly Ser Ile Thr Ala Ile Val
 370 375 380

Ser Leu Leu Ser Gly Ile Thr Tyr Leu Tyr Trp Arg Glu Thr Lys Arg
 385 390 395 400
 Lys Arg Ser Ile Leu Tyr Glu Leu Glu Asp Glu Lys Glu Ser Leu Ala
 405 410 415
 Leu Ala Val Glu Gly Ser Asp Thr Tyr Ala Trp Arg Leu Lys Asp Asp
 420 425 430
 Thr Met Val Phe Glu Tyr Ala Phe Trp Lys Asn Leu Gly Met Ala Pro
 435 440 445
 His Pro Leu Thr Ile Asp Gly Phe Leu Ser Phe Val Asp Ala Asp Tyr
 450 455 460
 Leu Asp Thr Thr Gln Ala Leu Leu Thr Lys Asn Ala Thr Asn Gly Lys
 465 470 475 480
 His Phe Ile Lys Leu Lys Cys Asp Phe Asn Gly Thr Gly Tyr Gln Trp
 485 490 495
 Trp Glu Leu Arg Cys Ser Thr Met Lys Ser Ala Leu Gly Gly Gln Lys
 500 505 510
 Thr Thr Gly Leu Leu Leu Asn Ile Glu Asp Tyr Lys Lys Arg Glu Gln
 515 520 525
 Glu Leu Ile Glu Ala Arg Lys Met Ala Glu Lys Ala Glu Leu Lys Glu
 530 535 540
 Ser Phe Leu Ala Asn Ile Ser His Glu Ile Arg Thr Pro Leu Asn Ala
 545 550 555 560
 Ile Val Gly Phe Ser Thr Leu Leu Ala Ser Pro Asp Asp Thr Asp Ile
 565 570 575
 Thr Pro Glu Glu Lys Glu Gln Tyr Ile Asp Thr Ile Asn Arg Asn Ser
 580 585 590
 Glu Leu Leu Leu Lys Leu Ile Asn Asp Ile Leu Glu Leu Ser Arg Ile
 595 600 605
 Glu Ser Gly Tyr Met Ser Phe Asp Cys Asp Asp Tyr Pro Leu Asp Ala
 610 615 620
 Leu Ile Arg Asp Thr Tyr Gln Thr His Lys Ile Leu Ile Pro Gly Gln
 625 630 635 640
 Leu His Phe Leu Leu Glu Glu Gly Glu Lys Gly Leu Ile Val His Val
 645 650 655
 Asp Lys Asn Arg Leu Val Gln Val Ile Thr Asn Phe Leu Asn Asn Ala
 660 665 670
 Ser Lys Phe Thr Arg Glu Gly Ser Ile Lys Leu Gly Trp Ser Tyr Met
 675 680 685
 Pro Gln Thr Glu Glu Val Glu Ile Tyr Val Glu Asp Thr Gly Ile Gly
 690 695 700
 Ile Pro Gln Ser Glu Gln Lys Met Ile Phe Gly Arg Phe Tyr Lys Gln
 705 710 715 720
 Asn Glu Phe Ala Gln Gly Thr Gly Leu Gly Leu Ser Ile Cys Lys Leu
 725 730 735
 Ile Ile Glu Lys Leu Gln Gly Arg Leu Ser Leu Arg Ser Glu Ala Gly
 740 745 750
 Thr Gly Ser Arg Phe Ser Ile Phe Phe Ser Cys Lys Lys Gln Ser Ile
 755 760 765

<210> 10297

<211> 282

<212> PRT

<213> B.fragilis

<400> 10297

Asn His Ser Lys Cys Asn Arg Ile Met Ile Asn Ile Gly Gln Tyr Ile
 1 5 10 15
 Glu Thr Leu Ile Asn Trp Met Met Ile His Phe Ser Thr Phe Phe Asp
 20 25 30

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<210> 10298
<211> 285
<212> PRT
<213> B.fragilis
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Asp	Met	Arg	Lys	Tyr	Arg	Ile	Ile	Gly	Ser	Leu	Leu	Leu	Leu	Ala	Val
1				5					10					15	
Met	Cys	Val	Ala	Cys	Asn	Pro	Asp	Ser	Gly	Lys	Lys	Lys	Ile	Ser	Ile
			20					25					30		
Ala	Tyr	Ala	Asn	Trp	Leu	Glu	Gly	Ile	Ala	Met	Ser	His	Leu	Ala	Lys
		35				40					45				
Val	Val	Leu	Glu	Glu	Lys	Gly	Tyr	Glu	Val	Glu	Leu	Leu	Asn	Ala	Asp
	50					55				60					
Val	Ala	Pro	Val	Phe	Ala	Ser	Val	Ser	Arg	Lys	Lys	Ala	Asp	Val	Phe
65				70					75					80	
Met	Asp	Ala	Trp	Leu	Pro	Val	Thr	Met	Lys	Asp	Tyr	Ile	Asp	Gln	Tyr
			85						90					95	
Gly	Asp	Gln	Ile	Glu	Phe	Ile	Gly	Glu	Val	Tyr	Asp	Ser	Ala	Arg	Val
			100					105					110		
Gly	Leu	Val	Val	Pro	Gln	Tyr	Val	Thr	Ile	Asp	Ser	Ile	Gly	Glu	Leu
		115					120					125			
Ala	Ala	Tyr	Lys	Gly	Gln	Phe	Ser	Ser	Glu	Ile	Val	Gly	Ile	Asp	Ala
	130					135					140				
Gly	Ala	Gly	Ile	Met	Lys	Thr	Thr	Asp	Lys	Ala	Ile	Gly	Asp	Tyr	Gly
145				150					155					160	

Leu Asp Gly Tyr Lys Leu Leu Thr Ser Ser Ser Ser Thr Met Leu Ala
 165 170 175
 Ser Leu Gln Lys Ala Met Glu Lys Glu Ala Trp Ile Val Ile Thr Gly
 180 185 190
 Trp Thr Pro His Trp Met Phe Asp Arg Tyr Pro Leu Lys Phe Leu His
 195 200 205
 Asp Pro Lys Gly Thr Tyr Gly Asn Val Glu Ser Ile Tyr Val Val Gly
 210 215 220
 Trp Lys Gly Phe Thr Glu Lys Asp Pro Phe Ala Ala Lys Phe Phe Ser
 225 230 235 240
 Asn Ile Lys Phe Thr Thr Glu Glu Ile Ser Ser Leu Met Lys Ala Leu
 245 250 255
 Lys Asp Ala Arg Met Asp Glu Glu Asp Leu Val Arg Lys Trp Arg Asp
 260 265 270
 Glu His Arg Glu Leu Val Glu Ser Trp Ile Pro Glu Ser
 275 280 285

<210> 10299
 <211> 909
 <212> PRT
 <213> B.fragilis

<400> 10299

Pro Thr Met Asn Arg Ile Leu Phe Leu Leu Gly Leu Met Leu Ser Gly
 1 5 10 15
 Leu Leu Val Ser Cys Ser Pro Asp Ala Pro Arg Tyr Thr Ile Gly Val
 20 25 30
 Ser Gln Cys Ser Asp Asp Thr Trp Arg His Lys Met Asn Asp Glu Ile
 35 40 45
 Gln Arg Glu Ala Leu Phe Tyr Gly Gly Val Lys Val Glu Thr Arg Thr
 50 55 60
 Ala His Asp Asp Ser Arg Arg Gln Ile Glu Asp Ile Arg Tyr Phe Ile
 65 70 75 80
 Arg Gln Lys Val Asp Leu Leu Ile Val Ala Ala Asn Glu Gly Met Ala
 85 90 95
 Leu Thr Pro Val Val Glu Glu Ala Phe Asp Lys Gly Ile Pro Val Ile
 100 105 110
 Met Val Asp Arg Arg Ile Leu Ser Asp Lys Tyr Thr Ala Tyr Ile Gly
 115 120 125
 Ala Asp Asn Tyr Glu Leu Gly Lys Ala Val Gly Asn Tyr Ile Ala His
 130 135 140
 Arg Leu Lys Gly Arg Gly Lys Val Val Glu Leu Ser Gly Leu Val Gly
 145 150 155 160
 Ser Thr Pro Ala Ile Glu Arg His Gln Gly Phe Met Ser Ala Ile Ser
 165 170 175
 Gln Tyr Pro Asp Met Thr Leu Leu Ala Ser Glu Asp Ala Gly Trp Leu
 180 185 190
 Gln Gln Pro Ala Glu Ala Lys Met Asp Ser Leu Leu Gln Arg Phe Pro
 195 200 205
 Glu Ile Asp Ala Val Tyr Gly Met Asn Asp Arg Met Ala Ala Gly Ala
 210 215 220
 Phe Arg Ala Ala Gly Arg Arg Gly Arg Glu Lys Glu Met Ile Phe Val
 225 230 235 240
 Gly Ile Asp Ala Leu Pro Gly Lys Gly Asn Gly Val Glu Leu Val Leu
 245 250 255
 Asp Ser Val Leu Asp Ala Thr Phe Ile Tyr Pro Thr Glu Gly Asp Lys
 260 265 270
 Val Val Gln Leu Ala Met Asp Ile Leu Glu Lys Lys Pro Phe Glu Arg
 275 280 285

Glu Thr Lys Leu Lys Thr Ala Val Val Asp Ala Val Asn Ala His Val
 290 295 300
 Met Glu Leu Gln Thr Asn His Ile Gly Glu Leu Asp Gly Lys Ile Glu
 305 310 315 320
 Thr Leu Asn Asp Arg Val Gly Ile Tyr Leu Ser Arg Val Ala Thr Gln
 325 330 335
 Arg Ile Val Leu Tyr Gly Gly Leu Ile Leu Leu Leu Ile Val Gly
 340 345 350
 Leu Leu Ile Val Val Tyr Lys Ser Leu Arg Ser Lys Asn Ser Leu Asn
 355 360 365
 Arg Glu Leu Ser Arg Gln Lys Glu Gln Leu Glu Glu Gln Arg Asp Gln
 370 375 380
 Leu Ile Glu Leu Ser His Gln Leu Glu Glu Ala Thr His Ala Lys Leu
 385 390 395 400
 Val Phe Phe Thr Asn Ile Ser His Asp Phe Arg Thr Pro Leu Thr Leu
 405 410 415
 Val Ala Asp Pro Val Glu Gln Leu Leu Ala Asp Pro Ser Leu Glu Gly
 420 425 430
 Asp Arg Arg Arg Met Leu Leu Leu Val Gln Arg Asn Val Gln Ile Leu
 435 440 445
 Leu Arg Leu Val Asn Gln Ile Leu Asp Phe Arg Arg Tyr Glu Thr Gly
 450 455 460
 Lys Met Glu Phe Thr Pro Val Pro Leu Asp Leu Leu Gln Cys Phe Val
 465 470 475 480
 Gly Trp Asn Asp Ser Phe Gln Ala Ala Ala Arg Arg Lys His Ile His
 485 490 495
 Phe Ser Phe Asp Ser Val Pro Asp Thr Asp Tyr His Thr Gln Ala Asp
 500 505 510
 Ala Glu Lys Leu Glu Arg Ile Tyr Phe Asn Leu Leu Ala Asn Ala Phe
 515 520 525
 Lys Phe Thr Pro Glu Asn Gly Lys Val Thr Val Arg Leu Ala Ala Leu
 530 535 540
 Gln Lys Asp Gly Ala Pro Phe Phe Arg Phe Thr Val Ala Asn Thr Gly
 545 550 555 560
 Ser Leu Ile Ser Ala Glu His Ile Arg Ser Ile Phe Asp Arg Phe Tyr
 565 570 575
 Lys Ile Asp Arg His His Thr Gly Ser Gly Ile Gly Leu Ala Leu Val
 580 585 590
 Lys Ala Phe Val Glu Ile His Gly Gly Ser Ile Ser Val Glu Ser Asp
 595 600 605
 Glu Arg Leu Gly Thr Val Phe Thr Val Asp Leu Pro Val Arg Thr Cys
 610 615 620
 Glu Glu Gly Ala Cys Val Val Thr Ala Pro Met Glu Glu Ser Ala Pro
 625 630 635 640
 Asp Arg Val Asp Ser Leu Leu Arg Glu Asp Glu Ala Glu Asn Leu Asn
 645 650 655
 Asp Pro Ser Lys Pro Ser Val Leu Val Ile Asp Asp Asn Ala Asp Ile
 660 665 670
 Arg Ala Tyr Val His Thr Leu Leu Asn Ser Glu Tyr Ser Ile Ile Glu
 675 680 685
 Ala Ala Asp Gly Thr Glu Gly Ile Arg Lys Ala Met Lys Tyr Val Pro
 690 695 700
 Asp Val Ile Ile Ser Asp Val Met Met Pro Gly Ile Asp Gly Ile Glu
 705 710 715 720
 Cys Cys Arg Arg Leu Lys Gly Glu Leu Gln Thr Cys His Ile Pro Val
 725 730 735
 Ile Leu Leu Thr Ala Cys Ser Leu Asp Glu Gln Arg Ile Gln Gly Tyr
 740 745 750
 Ala Gly Gly Ala Asp Ser Tyr Ile Ser Lys Pro Phe Ser Ser Gln Leu

755	760	765
Leu Leu Thr Arg Ile Arg Asn Leu Ile Glu Ser Arg Gln Arg Met Lys		
770	775	780
Gln Phe Phe Gly Asp Arg Gln Thr Leu Ala Lys Glu Asp Ile Cys Asp		
785	790	795
Met Asp Lys Asp Phe Val Glu Arg Phe Lys Ser Leu Ile Glu Val Lys		800
	805	810
Met Gly Asp Ser Glu Leu Asn Val Glu Asp Leu Gly Lys Glu Met Gly		815
	820	825
Leu Ser Arg Val Gln Leu Tyr Arg Lys Ile Lys Ser Leu Thr Asn Tyr		830
	835	840
Ala Pro Asn Glu Leu Leu Arg Met Ala Arg Leu Lys Lys Ala Ala Ser		845
	850	855
Leu Leu Ala Ser Ser Asp Met Thr Ile Ala Glu Val Gly Tyr Glu Val		860
865	870	875
Gly Phe Thr Ser Pro Ser Tyr Phe Ala Lys Cys Tyr Lys Glu Gln Phe		880
	885	890
Gly Glu Ser Pro Thr Glu Phe Leu Lys Arg Ser Gly Leu		895
	900	905

<210> 10300
 <211> 214
 <212> PRT
 <213> B.fragilis

<400> 10300

Thr Lys Met Asn Arg Phe His His Arg Val Thr Gln Ser Leu Thr Glu		
1	5	10
Phe Lys Phe Leu Val His Arg Met Phe Lys Arg Lys Ile Phe Ser Val		
	20	25
Arg Leu Cys Val Thr Leu Trp Cys Pro Pro Lys Asn Gly Ile Ile Met		30
	35	40
Asn Ile Thr Ile Arg Pro Thr Arg Leu Glu Glu Leu Gly Gln Val Met		45
	50	55
Pro Phe Tyr Glu Arg Ala Arg Arg Phe Met Ala Thr Asn Gly Asn Ala		60
65	70	75
Asn Gln Trp Ile Asn Gly Tyr Pro Ser Pro Asp Asp Ile Arg Gln Asp		80
	85	90
Ile Glu Asn Gly Ser Ser Tyr Val Phe Val Asn Glu Asn Gln Glu Leu		95
	100	105
Glu Gly Cys Phe Ala Phe Ile Arg Gly Glu Asp Pro Asn Tyr Lys Val		110
	115	120
Ile Lys Asp Gly Ala Trp Leu Asn Asp Ala Pro Tyr Gly Val Ile His		125
	130	135
Arg Ile Ala Ser Gly Gly Arg Val Lys Gly Leu Met Asp Leu Cys Leu		140
145	150	155
Glu Trp Cys Ser Ser His Cys Pro Asn Leu Arg Val Asp Thr His Arg		160
	165	170
Asp Asn Lys Val Leu Gln Asn Ile Leu Leu Lys Asn Gly Phe Thr Tyr		175
	180	185
Cys Gly Ile Ile Tyr Val Lys Asn Gly Thr Glu Arg Leu Ala Tyr Gln		190
	195	200
Arg Thr Ala Val Thr Arg		205
	210	

<210> 10301
 <211> 281
 <212> PRT
 <213> B.fragilis

<400> 10301

Arg	His	Val	Asn	Pro	Gly	Cys	Tyr	Phe	Gly	Gly	Ser	Ala	Thr	Gln	Tyr
1			5						10					15	
Phe	Ile	Gly	Asp	Phe	Asp	Gly	Glu	Lys	Phe	Val	Cys	Asp	Asn	Lys	Pro
		20						25					30		
Glu	Thr	Val	Lys	Trp	Leu	Asp	Trp	Gly	Lys	Asp	His	Tyr	Ala	Thr	Val
		35					40					45			
Cys	Phe	Ser	Asn	Thr	Gly	Asp	Arg	Thr	Ile	Ala	Val	Pro	Trp	Met	Ser
	50					55					60				
Asn	Trp	Gln	Tyr	Ala	Asn	Ile	Val	Pro	Thr	Arg	Gln	Phe	Arg	Ser	Ala
65					70					75					80
Asn	Ala	Leu	Pro	Arg	Glu	Leu	Ser	Leu	Tyr	Thr	Gln	Asp	Gly	Asp	Ile
				85					90					95	
Tyr	Met	Ala	Ala	Ala	Pro	Val	Glu	Glu	Thr	Lys	Ser	Leu	Arg	Lys	Glu
			100					105					110		
Ser	Arg	Glu	Ile	Pro	Ala	Phe	Glu	Val	Gly	Asp	Ala	Tyr	His	Val	Asp
		115					120					125			
Ser	Leu	Leu	Ser	Asp	Asn	Lys	Gly	Ala	Tyr	Glu	Ile	Glu	Leu	Glu	Leu
	130					135					140				
Ala	Ala	Gly	Ser	Ala	Glu	Ile	Met	Gly	Leu	Lys	Leu	Phe	Asn	Glu	Lys
145					150					155					160
Gly	Glu	Asn	Val	Asp	Ile	Tyr	Ile	Ser	Leu	Pro	Glu	Lys	Lys	Leu	Val
				165					170					175	
Met	Asp	Arg	Thr	Lys	Ser	Gly	Ile	Val	Asp	Phe	Gly	Lys	Asp	Ser	Ala
			180					185					190		
Pro	His	Ala	Ile	Glu	Ala	His	Asp	Arg	Arg	Lys	Gln	Asn	Ser	Ile	Asn
		195					200					205			
Tyr	Val	Asp	Asp	Phe	Ala	Leu	Gly	Thr	Trp	Ala	Pro	Val	Gln	Lys	Ala
	210					215					220				
Gly	Asn	Tyr	Lys	Leu	Asp	Ile	Phe	Val	Asp	Lys	Cys	Ser	Val	Glu	Ile
225					230					235					240
Phe	Leu	Asn	Gly	Gly	Lys	Ile	Ala	Met	Thr	Asn	Leu	Ile	Phe	Pro	Thr
				245					250					255	
Thr	Pro	Tyr	Asn	Gln	Met	Ser	Phe	Tyr	Ser	Arg	Gly	Gly	Ala	Phe	Lys
			260					265					270		
Val	Asp	Arg	Cys	Lys	Ile	Tyr	Arg	Leu							
		275					280								

<210> 10302

<211> 390

<212> PRT

<213> B.fragilis

<400> 10302

His	Ile	Met	Glu	Asn	Thr	Lys	Asn	Asn	Ser	Tyr	Met	Lys	Leu	Ile	Pro
1				5					10					15	
Val	Met	Leu	Cys	Phe	Phe	Ala	Met	Gly	Phe	Val	Asp	Leu	Val	Gly	Ile
			20					25					30		
Ala	Ser	Asn	Tyr	Val	Lys	Ala	Asp	Leu	Gly	Leu	Thr	Asp	Ser	Gln	Ala
		35					40					45			
Asn	Ile	Phe	Pro	Ser	Leu	Val	Phe	Phe	Trp	Phe	Leu	Ile	Phe	Ser	Val
	50					55					60				
Pro	Thr	Gly	Met	Leu	Met	Asn	Arg	Ile	Gly	Arg	Lys	Lys	Thr	Val	Leu
65					70					75					80
Leu	Ser	Leu	Val	Ile	Thr	Phe	Ala	Ser	Leu	Leu	Leu	Pro	Val	Phe	Gly
				85					90					95	
Asp	Ser	Tyr	Leu	Leu	Met	Leu	Val	Ser	Phe	Ser	Leu	Leu	Gly	Ile	Gly
			100					105					110		

Asn Ala Leu Met Gln Thr Ser Leu Asn Pro Val Leu Ser Asn Ile Val
 115 120 125
 Ser Gly Glu Arg Leu Ala Ser Thr Leu Thr Phe Gly Gln Phe Val Lys
 130 135 140
 Thr Ile Ala Ser Phe Leu Ala Pro Tyr Ile Ala Met Trp Gly Ala Ile
 145 150 155 160
 Glu Ala Ile Pro Thr Phe Asp Leu Gly Trp Arg Val Leu Phe Pro Ile
 165 170 175
 Tyr Met Val Val Ala Val Val Ala Ile Leu Leu Leu Asn Ala Thr Gln
 180 185 190
 Ile Thr Glu Glu Pro Glu Glu Gly Lys Pro Ser Thr Phe Gly Gln Cys
 195 200 205
 Leu Ala Leu Leu Gly Lys Pro Phe Ile Leu Leu Ser Phe Leu Gly Ile
 210 215 220
 Met Cys His Val Gly Ile Asp Val Gly Thr Asn Thr Thr Ala Pro Lys
 225 230 235 240
 Ile Leu Met Glu Arg Leu Gly Met Thr Leu Ala Asp Ala Gly Phe Ala
 245 250 255
 Thr Ser Leu Tyr Phe Ile Phe Arg Thr Ala Gly Cys Phe Leu Gly Ala
 260 265 270
 Phe Ile Leu Gln Lys Met Ala Ala Lys Thr Phe Phe Ala Ile Ser Val
 275 280 285
 Leu Cys Met Leu Ala Ala Met Phe Gly Leu Phe Val Phe Gln Asp Gln
 290 295 300
 Ala Met Ile Tyr Val Cys Ile Ala Leu Ile Gly Phe Gly Asn Ser Asn
 305 310 315 320
 Val Phe Pro Ile Ile Phe Ser Gln Ala Met Leu Tyr Met Pro Asp Lys
 325 330 335
 Lys Asn Glu Val Ser Gly Leu Met Ile Met Gly Leu Phe Gly Gly Thr
 340 345 350
 Ile Phe Pro Leu Ala Met Gly Val Ala Ser Asp Ala Val Gly Gln Ser
 355 360 365
 Gly Ala Val Ala Val Met Leu Val Gly Val Leu Tyr Leu Met Phe Tyr
 370 375 380
 Thr Trp Arg Ile Lys Lys
 385 390

<210> 10303

<211> 124

<212> PRT

<213> B.fragilis

<400> 10303

Arg Asn Ser Leu Tyr Lys Ser Asn Thr Ser Met Lys Asp Tyr Lys Glu
 1 5 10 15
 Asn Lys Ser Asn Leu Ser Glu Thr Phe Cys Asn Glu Val Tyr Ser Val
 20 25 30
 Val Arg Glu Ile Pro Ala Gly Ser Val Thr Thr Tyr Gly Asp Ile Ala
 35 40 45
 Ala Leu Leu Gly Met Pro Gln Tyr Ser Arg Met Val Gly Arg Ala Leu
 50 55 60
 Arg Gln Val Pro Ala Gly Leu Asn Leu Pro Cys His Arg Val Val Asn
 65 70 75 80
 Ala Ile Gly Arg Leu Val Pro Gly Trp Asp Glu Gln Arg Arg Leu Leu
 85 90 95
 Asp Ala Glu Gly Val Ser Phe Arg Lys Asn Gly Cys Val Asp Leu Arg
 100 105 110
 Leu His Arg Trp Arg Asp Asp Ser Val Leu Ala Asp
 115 120

<400> 10304

姓名	性别	年龄	职业	住址	电话	备注
王德胜	男	45	工人	XX路XX号	XXXX	
李小明	男	32	教师	XX街XX号	XXXX	
张小红	女	28	护士	XX巷XX号	XXXX	
赵国强	男	55	退休	XX里XX号	XXXX	
刘丽娟	女	38	医生	XX院XX号	XXXX	
陈伟华	男	42	工程师	XX厂XX号	XXXX	
周美玲	女	35	会计	XX楼XX号	XXXX	
吴大刚	男	50	干部	XX局XX号	XXXX	
孙小芳	女	25	学生	XX校XX号	XXXX	
郑志远	男	48	商人	XX店XX号	XXXX	
马秀英	女	30	职员	XX司XX号	XXXX	
徐建民	男	40	农民	XX村XX号	XXXX	
黄文娟	女	22	教师	XX校XX号	XXXX	
郭志强	男	52	工人	XX厂XX号	XXXX	
林小华	女	33	护士	XX院XX号	XXXX	
罗大伟	男	47	干部	XX局XX号	XXXX	
周美娟	女	27	学生	XX校XX号	XXXX	
吴志远	男	43	商人	XX店XX号	XXXX	
马秀英	女	31	职员	XX司XX号	XXXX	
徐建民	男	41	农民	XX村XX号	XXXX	
黄文娟	女	23	教师	XX校XX号	XXXX	
郭志强	男	51	工人	XX厂XX号	XXXX	
林小华	女	34	护士	XX院XX号	XXXX	
罗大伟	男	46	干部	XX局XX号	XXXX	
周美娟	女	26	学生	XX校XX号	XXXX	
吴志远	男	44	商人	XX店XX号	XXXX	
马秀英	女	32	职员	XX司XX号	XXXX	
徐建民	男	42	农民	XX村XX号	XXXX	
黄文娟	女	24	教师	XX校XX号	XXXX	
郭志强	男	53	工人	XX厂XX号	XXXX	
林小华	女	35	护士	XX院XX号	XXXX	
罗大伟	男	45	干部	XX局XX号	XXXX	
周美娟	女	25	学生	XX校XX号	XXXX	
吴志远	男	43	商人	XX店XX号	XXXX	
马秀英	女	31	职员	XX司XX号	XXXX	
徐建民	男	41	农民	XX村XX号	XXXX	
黄文娟	女	23	教师	XX校XX号	XXXX	
郭志强	男	51	工人	XX厂XX号	XXXX	
林小华	女	34	护士	XX院XX号	XXXX	
罗大伟	男	46	干部	XX局XX号	XXXX	
周美娟	女	26	学生	XX校XX号	XXXX	
吴志远	男	44	商人	XX店XX号	XXXX	
马秀英	女	32	职员	XX司XX号	XXXX	
徐建民	男	42	农民	XX村XX号	XXXX	
黄文娟	女	24	教师	XX校XX号	XXXX	
郭志强	男	53	工人	XX厂XX号	XXXX	
林小华	女	35	护士	XX院XX号	XXXX	
罗大伟	男	45	干部	XX局XX号	XXXX	
周美娟	女	25	学生	XX校XX号	XXXX	
吴志远	男	43	商人	XX店XX号	XXXX	
马秀英	女	31	职员	XX司XX号	XXXX	
徐建民	男	41	农民	XX村XX号	XXXX	
黄文娟	女	23	教师	XX校XX号	XXXX	
郭志强	男	51	工人	XX厂XX号	XXXX	
林小华	女	34	护士	XX院XX号	XXXX	
罗大伟	男	46	干部	XX局XX号	XXXX	
周美娟	女	26	学生	XX校XX号	XXXX	
吴志远	男	44	商人	XX店XX号	XXXX	
马秀英	女	32	职员	XX司XX号	XXXX	
徐建民	男	42	农民	XX村XX号	XXXX	
黄文娟	女	24	教师	XX校XX号	XXXX	
郭志强	男	53	工人	XX厂XX号	XXXX	
林小华	女	35	护士	XX院XX号	XXXX	
罗大伟	男	45	干部	XX局XX号	XXXX	
周美娟	女	25	学生	XX校XX号	XXXX	
吴志远	男	43	商人	XX店XX号	XXXX	
马秀英	女	31	职员	XX司XX号	XXXX	
徐建民						

<210> 10305
 <211> 102
 <212> PRT
 <213> B.fragilis

<400> 10305

Ala	Leu	Ala	Gly	Ser	Val	Arg	Ile	Ser	Ser	Glu	Val	Pro	Thr	Cys	Thr
1				5					10					15	
Thr	Ser	Pro	Ser	Phe	Met	Ile	Ala	Ile	Arg	Ser	Pro	Asn	Leu	Met	Ala
			20					25					30		
Ser	Phe	Lys	Ser	Trp	Val	Ile	Asn	Thr	Met	Val	Phe	Phe	Ile	Leu	Asp
		35					40					45			
Cys	Lys	Val	Ser	Asn	Ser	Ser	Cys	Ile	Cys	Met	Arg	Ile	Lys	Gly	Ser
	50					55					60				
Arg	Ala	Glu	Lys	Ala	Ser	Ser	Ile	Ser	Ser	Thr	Ser	Gly	Ser	Leu	Ala
65					70					75				80	
Asn	Ala	Arg	Ala	Lys	Pro	Thr	Arg	Cys	Cys	Ile	Pro	Pro	Asp	Ser	Ser
				85					90					95	
Pro	Thr	Ile	Trp	Phe	Ser										
															100

<210> 10306
 <211> 192
 <212> PRT
 <213> B.fragilis

<400> 10306

His	Gln	Ile	Leu	Asn	Ile	Met	Asp	Tyr	Glu	Lys	Leu	Glu	Gln	Leu	Lys
1				5					10					15	
Arg	Leu	His	Asp	Ser	Gly	Ala	Leu	Asn	Asp	Glu	Glu	Phe	Glu	Lys	Glu
			20					25					30		
Lys	Lys	Lys	Ile	Leu	Asp	Glu	Glu	Ala	Thr	Ala	Lys	Pro	Thr	Ala	Val
		35					40					45			
Leu	Pro	Met	Gly	Leu	Thr	Glu	Asn	Ala	Tyr	Leu	Ala	Leu	Met	Asn	Phe
	50					55				60					
Ala	Met	Phe	Ile	Pro	Tyr	Val	Gly	Trp	Ile	Ala	Pro	Ile	Val	Phe	Trp
65					70				75					80	
Ile	Met	Gly	Lys	Glu	Asn	Ser	Ile	Leu	Val	Asn	Arg	Gln	Gly	Lys	Tyr
				85				90						95	
Ile	Leu	Asn	Trp	Tyr	Ile	Ser	Trp	Phe	Leu	Tyr	Gly	Ile	Ala	Leu	Thr
		100						105					110		
Val	Leu	Phe	Val	Ile	Phe	Met	Phe	Ser	Gly	Ile	Leu	Ser	Ile	Asn	Asp
		115					120					125			
Met	Asp	Tyr	Ala	Asn	Asp	Gln	Thr	Ser	Pro	Leu	Ala	Val	Leu	Leu	Gly
	130					135					140				
Ile	Phe	Gly	Gly	Gly	Ala	Gly	Ile	Leu	Leu	Leu	Leu	Ile	Leu	Gly	Ile
145					150					155				160	
Gly	Cys	Phe	Leu	Cys	Leu	Leu	Phe	Pro	Ile	Ile	Gly	Gly	Ile	Lys	Gly
				165					170					175	
Leu	Asn	Gly	Lys	Thr	Trp	Lys	Tyr	Pro	Leu	Ser	Ile	Pro	Phe	Leu	Lys
			180					185						190	

<210> 10307
 <211> 398
 <212> PRT
 <213> B.fragilis

<400> 10307

Leu Met Leu Met Thr Asn Leu Leu Tyr Leu Phe Asn Pro Asp Gln Asp
 1 5 10 15
 Leu Ala Leu Ala Ser Gly Glu Val Asn Tyr Met Pro Pro Ala Ser Ala
 20 25 30
 Arg Arg Met Ala Glu Glu Leu Ala Leu Leu Pro Val Trp Phe Ala Asp
 35 40 45
 Gly Pro Cys Ser Val Leu Ala Pro Ser Ala Tyr Asn Gln Ser Phe Leu
 50 55 60
 Glu Glu Met Leu Asp Leu Phe Pro Leu Pro Ala Ser Leu Arg Thr Gln
 65 70 75 80
 Ala Glu Asp Phe Ser Glu Val Arg Ser Val Val Pro Trp Gly Trp Asn
 85 90 95
 Pro Ala Leu Arg Lys Arg Leu Leu Ser Leu Gly Val Pro Asp Ala Ala
 100 105 110
 Leu Pro Ser Met Glu Asp Ile Gly Arg Leu Arg Asp Leu Ser His Arg
 115 120 125
 Leu Gln Ala Val Arg Leu Leu Ser Gly Leu Gln Val Asp Glu Val Phe
 130 135 140
 Cys Gly Glu Ser Cys Tyr Leu Thr Ala Leu Ser Asp Cys Arg Ala Phe
 145 150 155 160
 Val Glu Ser Leu Glu Arg Cys Leu Leu Lys Ala Pro Leu Ser Gly Ser
 165 170 175
 Gly Lys Gly Leu Asn Trp Cys Lys Gly Ala Phe Thr Pro Leu Ile Glu
 180 185 190
 Arg Trp Cys Ala Arg Val Ile Glu Gln Gln Gly Gly Val Val Gly Glu
 195 200 205
 Pro Ile Tyr Asn Lys Val Glu Asp Phe Ala Met Glu Phe Tyr Ser Asp
 210 215 220
 Gly Lys Gly Arg Ile Ile Phe Ala Gly Tyr Ser Leu Phe Arg Thr Asn
 225 230 235 240
 Ala Gly Gly Ala Tyr Glu Gly Asn Arg Leu Leu Pro Asp Ala Glu Ile
 245 250 255
 Glu Arg Arg Leu Ser Ala Tyr Val Pro Val Ala Ala Leu His Arg Leu
 260 265 270
 Arg Glu Glu Leu Gln Arg Arg Leu Ser Val Ser Leu Gly Thr Glu Tyr
 275 280 285
 Ala Gly Tyr Leu Gly Val Asp Met Met Ile Cys Arg Phe Ala Leu Leu
 290 295 300
 Pro Glu Phe Arg Ile His Pro Cys Val Glu Ile Asn Leu Arg Met Asn
 305 310 315 320
 Met Gly Leu Val Ser Arg Met Leu Tyr Asp Arg Tyr Val Arg Pro Gly
 325 330 335
 Ala Gly Gly Thr Phe Arg Ile Ser Tyr His Pro Ser Asp Gly Gln Ala
 340 345 350
 Leu Gln Glu His Asp Ala Met Thr Val Ala His Pro Leu His Thr Arg
 355 360 365
 Asn Gly Arg Val Val Lys Gly Tyr Leu Pro Leu Val Pro Val Arg Lys
 370 375 380
 Ser Ser Arg Tyr Arg Ala Tyr Ile Leu Val Glu Thr Gly Gly
 385 390 395

<210> 10308

<211> 1193

<212> PRT

<213> B.fragilis

<400> 10308

Ile Thr Tyr Leu Asn Ile Ile Phe Ile Met Thr Lys Gln Lys Lys Phe
 1 5 10 15

Ile	Thr	Cys	Asp	Gly	Asn	Gln	Ala	Ala	His	Ile	Ser	Tyr	Met	Phe	
			20					25				30			
Ser	Glu	Val	Ala	Ala	Ile	Tyr	Pro	Ile	Thr	Pro	Ser	Ser	Thr	Met	Ala
		35					40					45			
Glu	Tyr	Val	Asp	Glu	Trp	Ala	Ala	Ala	Gly	Arg	Lys	Asn	Ile	Phe	Gly
	50					55					60				
Glu	Thr	Val	Leu	Val	Gln	Glu	Met	Gln	Ser	Glu	Gly	Gly	Ala	Ala	Gly
65					70					75					80
Ala	Val	His	Gly	Ser	Leu	Gln	Ala	Gly	Ala	Leu	Thr	Thr	Thr	Tyr	Thr
			85						90					95	
Ala	Ser	Gln	Gly	Leu	Leu	Leu	Met	Ile	Pro	Asn	Met	Tyr	Lys	Ile	Ala
			100						105				110		
Gly	Glu	Phe	Leu	Pro	Cys	Val	Phe	His	Val	Ser	Ala	Arg	Thr	Leu	Ala
		115					120					125			
Ser	His	Ala	Leu	Cys	Ile	Phe	Gly	Asp	His	Gln	Asp	Val	Met	Ser	Ala
	130					135					140				
Arg	Gln	Thr	Gly	Phe	Ala	Met	Leu	Ala	Glu	Gly	Ser	Val	Gln	Glu	Val
145					150					155					160
Met	Asp	Leu	Ala	Gly	Val	Ala	His	Leu	Ala	Thr	Ile	Lys	Ala	Arg	Val
			165						170					175	
Pro	Phe	Met	Asn	Phe	Phe	Asp	Gly	Phe	Arg	Thr	Ser	His	Glu	Ile	Gln
			180					185					190		
Lys	Ile	Glu	Met	Leu	Glu	Asn	Glu	Asp	Leu	Ala	Pro	Leu	Val	Asp	Gln
		195					200					205			
Glu	Ala	Leu	Ala	Glu	Phe	Arg	Ala	Arg	Ala	Leu	Asn	Pro	Met	Asn	Pro
	210					215					220				
Val	Ala	Arg	Gly	Met	Ala	Glu	Asn	Pro	Asp	His	Phe	Phe	Gln	His	Arg
225					230					235					240
Glu	Ser	Cys	Asn	Asn	Tyr	Tyr	Glu	Ala	Val	Pro	Ala	Ile	Val	Glu	Glu
			245						250					255	
Tyr	Met	Asn	Glu	Ile	Ser	Lys	Ile	Thr	Gly	Arg	Lys	Tyr	Gly	Leu	Phe
			260					265					270		
Asp	Tyr	Tyr	Gly	Ala	Glu	Asp	Ala	Glu	Arg	Val	Ile	Ile	Ala	Met	Gly
		275					280					285			
Ser	Val	Thr	Glu	Ala	Ala	Arg	Glu	Ala	Ile	Asp	Tyr	Leu	Thr	Ser	Gln
		290				295					300				
Gly	Glu	Lys	Val	Gly	Leu	Val	Ala	Val	His	Leu	Tyr	Arg	Pro	Phe	Ser
305					310					315					320
Ala	Lys	His	Phe	Leu	Ala	Ala	Val	Pro	Lys	Thr	Ala	Lys	Thr	Ile	Ala
			325						330					335	
Val	Leu	Asp	Arg	Thr	Lys	Glu	Pro	Gly	Ala	Asn	Gly	Glu	Pro	Leu	Tyr
			340					345					350		
Leu	Asp	Val	Lys	Asp	Cys	Phe	Tyr	Gly	Ala	Glu	Asn	Ala	Pro	Val	Ile
		355					360					365			
Val	Gly	Gly	Arg	Tyr	Gly	Leu									

				485					490					495			
Val	Ala	Cys	His	Val	Gln	Ala	Tyr	Leu	His	Met	Tyr	Asp	Val	Thr	Arg		
			500					505					510				
Gly	Leu	Arg	Lys	Asn	Gly	Ser	Phe	Leu	Leu	Asn	Thr	Ile	Trp	Glu	Gly		
		515					520					525					
Glu	Glu	Leu	Ala	Lys	Asn	Leu	Pro	Asn	Lys	Val	Lys	Lys	Tyr	Phe	Ala		
		530					535					540					
Gln	Asn	Asn	Ile	Ser	Val	Tyr	Tyr	Ile	Asn	Ala	Thr	Gln	Ile	Ala	Gln		
545					550					555					560		
Glu	Ile	Gly	Leu	Gly	Asn	Arg	Thr	Asn	Thr	Ile	Leu	Gln	Ser	Ala	Phe		
				565						570					575		
Phe	Arg	Ile	Thr	Gly	Val	Ile	Pro	Val	Asp	Gln	Ala	Val	Glu	Gln	Met		
			580						585						590		
Lys	Lys	Phe	Ile	Val	Lys	Ser	Tyr	Gly	Lys	Lys	Gly	Glu	Asp	Val	Val		
		595					600					605					
Asn	Lys	Asn	Tyr	Ala	Ala	Val	Asp	Arg	Gly	Gly	Glu	Tyr	Lys	Thr	Leu		
		610				615					620						
Thr	Val	Asp	Pro	Ala	Trp	Ala	Asn	Leu	Pro	Asp	Asp	Ala	Lys	Val	Glu		
625					630					635					640		
Asn	Asn	Asp	Pro	Ala	Phe	Ile	Asn	Glu	Val	Val	Arg	Pro	Ile	Asn	Ala		
				645					650						655		
Gln	Asp	Gly	Asp	Leu	Leu	Pro	Val	Ser	Ala	Phe	Lys	Gly	Ile	Glu	Asp		
			660					665							670		
Gly	Thr	Trp	Tyr	Gln	Gly	Thr	Ser	Lys	Tyr	Glu	Lys	Arg	Gly	Val	Ala		
		675					680								685		
Ala	Phe	Val	Pro	Glu	Trp	Asn	Ala	Glu	Asn	Cys	Ile	Gln	Cys	Asn	Lys		
		690				695					700						
Cys	Ala	Tyr	Val	Cys	Pro	His	Ala	Ser	Ile	Arg	Pro	Phe	Val	Leu	Asp		
705					710					715					720		
Ala	Glu	Glu	Gln	Lys	Gly	Ala	Asn	Phe	Glu	Met	Leu	Lys	Ala	Val	Gly		
				725					730						735		
Lys	Gln	Phe	Asp	Gly	Met	Thr	Phe	Arg	Ile	Gln	Val	Asp	Val	Leu	Asp		
			740					745							750		
Cys	Leu	Gly	Cys	Gly	Asn	Cys	Ala	Asp	Ile	Cys	Pro	Gly	Asn	Pro	Lys		
		755					760					765					
Lys	Gly	Gly	Lys	Ala	Leu	Thr	Met	Lys	His	Leu	Glu	Ser	Gln	Leu	Ala		
		770				775					780						
Gln	Ala	Asp	Asn	Trp	Thr	Tyr	Cys	Ala	Asp	Asn	Val	Lys	Ser	Lys	Gln		
785					790					795					800		
His	Leu	Val	Asp	Ile	Lys	Ala	Asn	Val	Lys	Asn	Ser	Gln	Phe	Ala	Thr		
				805					810						815		
Pro	Leu	Phe	Glu	Phe	Ser	Gly	Ala	Cys	Ser	Gly	Cys	Gly	Glu	Thr	Pro		
			820					825							830		
Tyr	Val	Lys	Leu	Ile	Ser	Gln	Leu	Tyr	Gly	Asp	Arg	Glu	Met	Val	Ala		
		835						840							845		
Asn	Ala	Thr	Gly	Cys	Ser	Ser	Ile	Tyr	Ser	Gly	Ser	Val	Pro	Ser	Thr		
		850				855					860						
Pro	Tyr	Thr	Thr	Asn	Ala	Lys	Gly	His	Gly	Pro	Ala	Trp	Ala	Asn	Ser		
865					870					875					880		
Leu	Phe	Glu	Asp	Phe	Cys	Glu	Phe	Gly	Leu	Gly	Met	Glu	Leu	Ala	Asn		
				885					890						895		
Glu	Lys	Met	Arg	Ala	Arg	Ile	Val	Lys	Leu	Phe	Asn	Glu	Ile	Leu	Ala		
			900					905							910		
Ala	Asp	Asn	Ala	Pro	Ala	Glu	Ala	Lys	Glu	Val	Leu	Lys	Ala	Trp	Ile		
		915					920								925		
Glu	Asn	Met	Tyr	Asp	Ala	Asp	Lys	Thr	Lys	Glu	Leu	Ala	Pro	Gln	Ile		
		930				935					940						
Glu	Ala	Ile	Ile	Glu	Gln	Gly	Ile	Ala	Ala	Gly	Cys	Pro	Ile	Ser	Lys		
945					950					955					960		

6122

Glu Leu Lys Gly Leu Thr Gln Tyr Leu Val Lys Arg Ser Gln Trp Ile
 965 970 975
 Ile Gly Gly Asp Gly Ala Ser Tyr Asp Ile Gly Tyr Gly Gly Leu Asp
 980 985 990
 His Val Ile Ala Ser Gly Lys Asp Val Asn Ile Leu Val Leu Asp Thr
 995 1000 1005
 Glu Val Tyr Ser Asn Thr Gly Gly Gln Ser Ser Lys Ala Thr Pro Val
 1010 1015 1020
 Gly Ala Ile Ala Lys Phe Ala Ala Ser Gly Lys Arg Val Arg Lys Lys
 1025 1030 1035 1040
 Asp Leu Gly Leu Met Ala Thr Thr Tyr Gly Tyr Val Tyr Val Ala Gln
 1045 1050 1055
 Ile Ala Met Gly Ala Asp Gln Ala Gln Thr Leu Lys Ala Ile Arg Glu
 1060 1065 1070
 Ala Glu Ala Tyr Pro Gly Pro Ser Leu Ile Ile Ala Tyr Ala Pro Cys
 1075 1080 1085
 Ile Asn His Gly Leu Lys Ala Gly Met Gly Lys Ser Gln Glu Glu Glu
 1090 1095 1100
 Glu Lys Ala Val Lys Cys Gly Tyr Trp His Leu Trp Arg Tyr Asn Pro
 1105 1110 1115 1120
 Ala Leu Glu Ala Glu Gly Lys Asn Pro Phe Thr Leu Asp Ser Lys Glu
 1125 1130 1135
 Pro Asn Trp Asp Asp Phe Lys Gly Phe Leu Lys Gly Glu Val Arg Tyr
 1140 1145 1150
 Ala Ser Val Met Lys Gln Tyr Pro Ala Glu Ala Glu Glu Leu Phe Gln
 1155 1160 1165
 Ala Ala Glu Asp Asn Ala Lys Trp Arg Tyr Asn Asn Tyr Lys Arg Leu
 1170 1175 1180
 Ala Asn Gln Ala Trp Gly Ala Ala Glu
 1185 1190

<210> 10309

<211> 281

<212> PRT

<213> B.fragilis

<400> 10309

Gln Leu Ser Leu Arg Met Leu Arg Pro Asn Arg Ala Tyr Thr Leu Val
 1 5 10 15
 Ala Asn Thr Gly Lys Gln Ile Arg Tyr Gly Glu Leu Phe Asn Arg Leu
 20 25 30
 Ser Gly Tyr Asp Val Ile Phe Leu Gly Glu Leu His Asn Cys Pro Ile
 35 40 45
 Thr His Trp Leu Glu Phe Glu Ile Thr Arg Ser Ile Tyr Asn Ile His
 50 55 60
 Lys Asp Gln Leu Met Leu Gly Ala Glu Met Phe Glu Ser Asp Asn Gln
 65 70 75 80
 Leu Ile Phe Asp Glu Tyr Met Gln Gln Lys Ile Ser Tyr Asp Arg Phe
 85 90 95
 Glu Ala Glu Ala Arg Leu Trp Asp Asn Tyr Arg Thr Asp Tyr Tyr Pro
 100 105 110
 Val Val Phe Phe Ala Lys Glu His His Ile Pro Phe Ile Ala Thr Asn
 115 120 125
 Ile Pro Arg Arg Tyr Ala Asn Ile Val Lys Asn Lys Gly Phe Glu Ala
 130 135 140
 Leu Asp Ser Leu Ser Glu Glu Ala Lys Arg Tyr Ile Ala Pro Leu Pro
 145 150 155 160
 Ile Asp Phe Glu Tyr Asp Glu Ala Gln Ser Ala Ala Ala Phe Ser Met
 165 170 175

Met Asn Met Met Gly Gly Arg Arg Ala Gly Asp Asn Arg Lys Leu Ala
 180 185 190
 Gln Ala Gln Ala Ile Lys Asp Ala Thr Met Gly Trp Phe Ile Ala Arg
 195 200 205
 Asn Ile Lys Asn Lys Phe Leu His Ile Asn Gly Ser Tyr His Ser Asn
 210 215 220
 Arg Gln Gly Gly Ile Ile Pro Tyr Leu Leu Arg Tyr Arg Pro Asn Thr
 225 230 235 240
 Ser Ile Val Thr Val Thr Ser Val Arg Gln Glu Ser Ile Arg Lys Arg
 245 250 255
 Leu His Asn Gly Asp Gly Arg Phe Asn Ser Pro Arg Asp Ser Ser Ser
 260 265 270
 Leu Val Lys Thr Lys Thr Gly Thr Tyr
 275 280

<210> 10310
 <211> 280
 <212> PRT
 <213> B.fragilis

<400> 10310

Ser Ser Leu Arg His Arg Gly Ser Phe Gln Pro Arg Gly Glu Asp Ser
 1 5 10 15
 Asp Thr Lys Asn Pro Ala Val Ala Ala Gly Thr Thr Leu Leu Phe
 20 25 30
 Gly Val Pro Asn Ile Ile Ser Glu Gln Lys Gln Thr Gln Asp Leu Thr
 35 40 45
 Gly Tyr Arg Pro Arg Lys Ala His Thr Tyr Asp Tyr Ala Gln Thr Lys
 50 55 60
 Gly Asp Glu Leu Leu Gly Thr Asn Ala Cys Val Val Phe Arg Ser Ala
 65 70 75 80
 Glu Ala Asn Leu Asn Tyr Met Glu Ala Cys Tyr Glu Lys Thr Gly Ser
 85 90 95
 Leu Asp Ala Lys Ala Gln Lys Tyr Trp Lys Ala Leu Arg Thr Arg Ala
 100 105 110
 Gly Val Asp Asp Asp Tyr Ala Lys Thr Ile Ala Ala Thr Asp Leu Ser
 115 120 125
 Lys Glu Asn Asp Leu Ala Val Tyr Ser Gly Ser Lys Met Val Asp Val
 130 135 140
 Thr Leu Tyr Asn Ile Arg Arg Glu Arg Arg Cys Glu Phe Ile Gly Glu
 145 150 155 160
 Gly Met Arg Trp Asp Asp Leu Lys Arg Trp Arg Ser Trp Asp Gln Leu
 165 170 175
 Leu Thr Lys Pro Tyr Ile Ile Glu Gly Ile Asn Phe Trp Asp Ala Ala
 180 185 190
 Tyr Lys Asp His Lys Asp Ile Lys Asp Asp Gly Thr Leu Asp Ala Asn
 195 200 205
 Val Ser Pro Lys Ser Asp Ser Lys Tyr Leu Arg Pro Leu Arg Arg Thr
 210 215 220
 Ser Ile Asn Asn Glu Leu Tyr Asp Gly Leu Thr Trp Arg Lys Ala Phe
 225 230 235 240
 Tyr Leu Asp Pro Ile Gly Ile Glu Asp Met Ser Leu Thr Ala Thr Asn
 245 250 255
 Pro Glu Asp Ile Asn Thr Thr Gln Leu Tyr Gln Asn Pro Tyr Trp Pro
 260 265 270
 Met Thr Ala Gly Lys Ala Leu Glu
 275 280

<210> 10311

$\langle 400 \rangle$ 10311

Ser	Leu	Ser	His	Tyr	Ser	Gly	Glu	Gly	Ser	Leu	Leu	Lys	Arg	Asn	Ile
1				5					10					15	
Glu	Met	Lys	Lys	Gln	Leu	Arg	Ser	Ser	Phe	Ser	Thr	Gln	Gly	Arg	Arg
			20					25					30		
Met	Ala	Gly	Ala	Arg	Ala	Leu	Trp	Ala	Ala	Asn	Gly	Met	Lys	Lys	Glu
		35					40					45			
Gln	Leu	Gly	Lys	Pro	Ile	Ile	Ala	Ile	Val	Asn	Ser	Phe	Thr	Gln	Phe
	50					55					60				
Val	Pro	Gly	His	Val	His	Leu	His	Glu	Ile	Gly	Gln	Leu	Val	Lys	Lys
65				70					75					80	
Glu	Ile	Glu	Lys	Leu	Gly	Cys	Phe	Ala	Ala	Glu	Phe	Asn	Thr	Ile	Ala
			85					90						95	
Ile	Asp	Asp	Gly	Ile	Ala	Met	Gly	His	Asp	Gly	Met	Leu	Tyr	Ser	Leu
			100					105					110		
Pro	Ser	Arg	Asp	Ile	Ile	Ala	Asp	Ser	Val	Glu	Tyr	Met	Val	Asn	Ala
		115					120					125			
His	Lys	Ala	Asp	Ala	Met	Val	Cys	Ile	Ser	Asn	Cys	Asp	Lys	Ile	Thr
	130					135					140				
Pro	Gly	Met	Leu	Met	Ala	Ala	Met	Arg	Leu	Asn	Ile	Pro	Thr	Val	Phe
145					150					155					160
Val	Ser	Gly	Gly	Pro	Met	Glu	Ala	Gly	Glu	Leu	Asp	Gly	Gln	His	Leu
			165					170						175	
Asp	Leu	Ile	Asp	Ala	Met	Ile	Lys	Ser	Ala	Asp	Glu	Ser	Val	Ser	Asp
			180					185					190		
Glu	Glu	Val	Ser	Lys	Ile	Glu	Asn	Arg	Ala	Cys	Pro	Thr	Cys	Gly	Cys
		195					200					205			
Cys	Ser	Gly	Met	Phe	Thr	Ala	Asn	Ser	Met	Asn	Cys	Leu	Asn	Glu	Ala
		210				215				220					
Ile	Gly	Leu	Ala	Leu	Pro	Gly	Asn	Gly	Thr	Ile	Val	Ala	Thr	His	Ala
225				230						235					240
Asn	Arg	Thr	Gln	Leu	Phe	Lys	Asp	Ala	Ala	Lys	Leu	Ile	Val	Glu	Asn
			245					250						255	
Thr	Tyr	Lys	Tyr	Tyr	Arg	Asp	Gly	Asp	Glu	Ser	Val	Leu	Pro	Arg	Ser
			260					265					270		
Ile	Ala	Thr	Arg	Glu	Ala	Phe	Leu	Asn	Ala	Met	Thr	Leu	Asp	Ile	Ala
		275				280						285			
Met	Gly	Gly	Ser	Thr	Asn	Thr	Val	Leu	His	Leu	Leu	Ala	Ile	Ala	His
	290				295					300					
Glu	Ala	Glu	Ala	Asp	Phe	Lys	Met	Asp	Asp	Ile	Asp	Met	Leu	Ser	Arg
305				310					315						320
Lys	Ser	Pro	Cys	Leu	Cys	Lys	Val	Ala	Pro	Asn	Thr	Gln	Lys	Tyr	His
			325					330					335		
Ile	Gln	Asp	Val	Asn	Arg	Ala	Gly	Gly	Ile	Met	Gly	Ile	Met	Gly	Gln
			340					345					350		
Leu	Ala	Lys	Ser	G											

[illegible]

<400> 10312

Tyr	Met	Ser	Lys	Asp	Ile	Ile	Ser	Gly	Gly	Glu	Ala	Leu	Met	Arg	Ser
1				5					10					15	
Leu	Glu	Tyr	His	Gly	Val	Lys	Thr	Ile	Phe	Gly	Tyr	Pro	Gly	Gly	Ser
			20					25					30		
Ile	Met	Pro	Val	Phe	Asp	Ala	Leu	Tyr	Asp	His	Arg	Glu	Thr	Leu	Asn
		35					40					45			
His	Ile	Leu	Val	Arg	His	Glu	Gln	Gly	Ala	Ala	His	Ala	Ala	Gln	Gly
	50					55					60				
Phe	Ala	Arg	Ala	Ser	Gly	Glu	Val	Gly	Val	Cys	Leu	Val	Thr	Ser	Gly
65				70						75				80	
Pro	Gly	Ala	Thr	Asn	Thr	Ile	Thr	Gly	Ile	Ala	Asp	Ala	Met	Ile	Asp
				85					90					95	
Ser	Thr	Pro	Ile	Val	Val	Ile	Ala	Gly	Gln	Val	Gly	Thr	Ala	Phe	Leu
			100					105					110		
Gly	Thr	Asp	Ala	Phe	Gln	Glu	Val	Asp	Leu	Val	Gly	Ile	Thr	Gln	Pro
		115					120					125			
Ile	Thr	Lys	Trp	Ser	Tyr	Gln	Ile	Arg	Arg	Ala	Glu	Asp	Val	Pro	Trp
	130					135					140				
Ala	Val	Ala	Arg	Ala	Phe	Tyr	Ile	Ala	Lys	Ser	Gly	Arg	Pro	Gly	Pro
145				150						155				160	
Val	Val	Leu	Asp	Phe	Ala	Lys	Asn	Ala	Gln	Val	Glu	Lys	Ala	Glu	Tyr
				165					170					175	
Met	Pro	Ala	Lys	Leu	Asp	Phe	Ile	Arg	Ser	Tyr	Val	Pro	Val	Pro	Glu
			180					185					190		
Thr	Asp	Pro	Glu	Ala	Val	Lys	Ala	Ala	Ala	Glu	Leu	Ile	Asn	Gly	Ala
		195					200					205			
Glu	Arg	Pro	Leu	Val	Leu	Val	Gly	Gln	Gly	Val	Glu	Gly	Asn	Ala	
	210					215					220				

Gln Gln Glu Leu Arg Ala Phe Ile Glu Lys Ala Asp Met Pro Ala Gly
 225 230 235 240
 Cys Thr Leu Leu Gly Leu Ser Ala Leu Pro Thr Glu His Pro Leu Asn
 245 250 255
 Lys Gly Met Leu Gly Met His Gly Asn Leu Gly Pro Asn Met Asn Thr
 260 265 270
 Asn Lys Cys Asp Val Leu Ile Ala Val Gly Met Arg Phe Asp Asp Arg
 275 280 285
 Val Thr Gly Asn Leu Ala Thr Tyr Ala Lys Gln Ala Lys Val Ile His
 290 295 300
 Phe Asp Ile Asp Pro Ala Glu Ile Asn Lys Asn Val His Ala Asp Val
 305 310 315 320
 Ala Gly Leu Gly Asn Cys Lys Glu Thr Leu Ser Ala Val Thr Ala Leu
 325 330 335
 Leu Gln Pro Asn Glu His Lys Glu Trp Leu Asp Ser Phe Leu Pro Tyr
 340 345 350
 Glu Gln Val Glu Glu Glu Lys Val Ile Arg Pro Glu Leu His Pro Met
 355 360 365
 Gly Asp Thr Leu Ser Met Gly Glu Val Val Arg Ala Val Ser Asp Ala
 370 375 380
 Thr Asn His Glu Ala Ile Leu Val Thr Asp Val Gly Gln Asn Gln Met
 385 390 395 400
 Met Ser Ala Arg Tyr Phe Lys Tyr Ser Lys Asp Arg Ser Met Ile Thr
 405 410 415
 Ser Gly Gly Leu Gly Thr Met Gly Phe Gly Leu Pro Ala Ala Ile Gly
 420 425 430
 Ala Thr Phe Gly Arg Pro Asp Arg Thr Val Cys Val Phe Met Gly Asp
 435 440 445
 Gly Gly Leu Gln Met Asn Ile Gln Glu Leu Gly Thr Ile Met Glu Gln
 450 455 460
 Lys Ala Pro Val Lys Ile Ile Val Ser Asn Asn Asn Phe Leu Gly Asn
 465 470 475 480
 Val Arg Gln Trp Gln Ala Met Phe Phe Asn Arg Lys Tyr Ser Phe Thr
 485 490 495
 Pro Met Leu Asn Pro Asp Tyr Ile Lys Ile Ala Ser Ala Tyr Asp Ile
 500 505 510
 Pro Ala Lys Arg Val Phe Thr Arg Glu Glu Leu Ala Asp Ala Ile Asp
 515 520 525
 Glu Met Ile Ala Thr Asp Gly Pro Phe Leu Leu Glu Ala Cys Val Ile
 530 535 540
 Glu Lys Gly Asn Val Leu Pro Met Thr Pro Pro Gly Gly Ser Phe Asn
 545 550 555 560
 Pro Met Leu Val Gly Met Leu Ile Ser
 565

<210> 10313
 <211> 235
 <212> PRT
 <213> B.fragilis

<400> 10313
 Asp Gly Ser Arg Tyr Val Met Ala Ala Asp Gly Ala Asp Gly Leu Val
 1 5 10 15
 Asn Gly Thr Val Cys Gly Leu Lys Ala Ser Leu Ala Val Asp Val Gln
 20 25 30
 Gly Tyr Ala Tyr Arg Val Val Lys Ile Gly Ser Leu Tyr Trp Met Gly
 35 40 45
 Glu Asn Leu Lys Thr Thr Gln Phe Asn Asp Gly Thr Pro Ile Pro Thr
 50 55 60

Gly Phe Ala Thr Ser Met Asp Trp Gly Ile Gln Cys Gly Lys Gly Leu
 65 70 75 80
 Pro Ala Cys Gln Val Asp Arg Ala Val Asn Ala Asn Ala Pro Gly Ala
 85 90 95
 Met Gln Tyr Arg Asn Leu Tyr Gly Val Leu Tyr Asn Gln Phe Ala Met
 100 105 110
 Lys Gly Asn Ile Ala Pro Gln Gly Trp His Val Pro Ser Lys Ala Glu
 115 120 125
 Leu Gln Ala Leu Val Asp Phe Val Gly Ala Asp Ala Arg Lys Leu Lys
 130 135 140
 Ser Thr Ala Val Gly Lys Gly Ile Gly Asn Trp Leu Glu Asp Thr Gly
 145 150 155 160
 Ile Glu Ala Asn Asn Leu Thr Gly Phe Thr Ala Leu Pro Ala Asn Thr
 165 170 175
 Val Asn Gly Gly Asn Gly Ser Thr Gly Ala Gln Glu Thr Thr Gly Gln
 180 185 190
 Trp Trp Ser Thr Glu Thr Ser Tyr Arg Ile Arg Met Ser Tyr Lys Ser
 195 200 205
 Asn Ser Val Glu Leu Leu Thr Ser Gly Asn Ala Leu Ala Gly Glu Gly
 210 215 220
 Asn Ser Ile Arg Cys Val Arg Asp Ala Asn Tyr
 225 230 235

<210> 10314

<211> 80

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (80)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10314

Pro Asn Val Gly Trp Asn Ala Asn Lys Leu Gly Ile Met Asp Lys Thr
 1 5 10 15
 Leu Cys Leu Ser His Gly Ala Trp Lys Asp Pro Pro Leu Ala Leu Ser
 20 25 30
 Met Ala Ile Ala Cys Phe Trp Cys Glu Asn Trp Tyr Ser Val His Asn
 35 40 45
 Ser His Pro Ile Ile Thr Asn Ser Glu Asn Ile Lys Met Tyr Lys Pro
 50 55 60
 Cys Gly Cys Pro Asn Gly Val Asn Pro Thr Leu Thr Ile Ile Cys Xaa
 65 70 75 80

<210> 10315

<211> 718

<212> PRT

<213> B.fragilis

<400> 10315

Leu Leu Ala Met Arg Trp Arg Val Lys Val Thr Ala Phe Val Val Ser
 1 5 10 15
 Gly Met Gln Ile Ile Asn Leu Thr Leu Met Asn Met Asn His Ile Ile
 20 25 30
 Lys Leu Leu Phe Leu Cys Leu Phe Phe Ala Thr Ala Cys Ser Gln Glu
 35 40 45
 Glu Met Asn Glu Val Leu Lys Asn His Ala Glu Met Glu Gly Gln Val
 50 55 60

6128 6128 6128

Asn	Ser	Ile	Glu	Glu	Leu	Cys	Lys	Asn	Met	Asn	Arg	Asp	Ile	Val	Ala
65					70					75					80
Leu	Lys	Leu	Ile	Ile	Asn	Ser	Ser	Glu	Ser	Gly	Asp	Tyr	Ile	Thr	Gly
				85					90					95	
Phe	Lys	Glu	Leu	Ala	Asp	Gly	Ser	Gly	Tyr	Thr	Ile	Ser	Phe	Phe	Lys
			100					105					110		
Ser	Gly	Thr	Ile	Val	Ile	Lys	Asn	Gly	Glu	Lys	Gly	Asp	Asp	Gly	Lys
		115					120					125			
Lys	Gly	Glu	Asp	Gly	Gln	Asp	Gly	Gln	Asn	Gly	Gln	Asn	Gly	Thr	Asp
		130				135					140				
Gly	Lys	Asp	Gly	Gln	Asp	Gly	Thr	Asp	Gly	Lys	Asp	Gly	Gln	Asp	Gly
145				150						155					160
Ile	Asp	Gly	Gln	Asp	Gly	Gln	Asp	Gly	Thr	Asp	Gly	Lys	Asp	Gly	Gln
			165					170						175	
Asp	Gly	Thr	Asp	Gly	Lys	Asp	Gly	Gln	Asp	Gly	Thr	Asp	Gly	Lys	Asp
			180					185					190		
Gly	Gln	Asp	Gly	Thr	Asp	Gly	Thr	Asp	Gly	Pro	Glu	Gly	Asp	Lys	Gly
		195				200					205				
Gln	Asn	Gly	Thr	Ala	Pro	Val	Val	Thr	Met	Lys	Met	Asp	Thr	Asp	Gly
		210				215					220				
His	Leu	Tyr	Trp	Ala	Ile	Lys	Asn	Ala	Asp	Gly	Thr	Ser	Ser	Phe	Leu
225					230					235					240
Leu	Asp	Asn	Asn	Gly	Gln	Lys	Val	Arg	Ala	Ser	Gly	Thr	Asp	Gly	Ile
			245						250					255	
Val	Pro	Val	Ile	Gly	Val	Asn	Ala	Ala	Gly	Tyr	Trp	Thr	Leu	Asp	Tyr
			260					265					270		
Gly	Ser	Gly	Pro	Val	Glu	Leu	Lys	Asp	Ala	Ala	Gly	Asn	Pro	Met	Lys
		275					280					285			
Ala	Lys	Gly	Ala	Ser	Gly	Asp	Pro	Met	Phe	Arg	Lys	Val	Val	Ser	Glu
		290				295					300				
Asp	Gly	Tyr	Ile	Val	Phe	Tyr	Leu	Thr	Asp	Gly	Thr	Ile	Phe	Lys	Val
305					310					315					320
Pro	Glu	Trp	Gly	Gly	Ala	Gln	Val	Glu	Leu	Ala	Ala	Ser	Gly	Val	Thr
			325						330					335	
Tyr	Phe	His	Arg	Ser	Glu	Ser	Leu	Thr	Phe	Thr	Phe	Thr	Cys	Ser	Gly
			340					345					350		
Val	Asn	Lys	Ser	Ile	Ala	Pro	Val	Cys	Thr	Ala	Pro	Val	Gly	Trp	Thr
		355				360						365			
Val	Thr	Ala	Gln	Tyr	Thr	Ser	Asp	Thr	Thr	Gly	Glu	Met	Thr	Val	Ile
		370				375					380				
Ala	Pro	Asp	Lys	Ser	Ser	Ala	Asp	Gly	Ala	Leu	Ser	Gly	Thr	Ala	Ile
385					390					395					400
Leu	Glu	Leu	Thr	Ala	Lys	Asp	Gly	Lys	Lys	Leu	Ser	Ala	Thr	Leu	Gly
			405						410					415	
Val	Thr	Leu													

530	535	540
Val Met Lys Ile Gly Thr Gln Tyr Trp Met Ala Asp Asn Leu Arg Thr		
545	550	555
Ile Thr Asn Ser Ala Gly Val Ile Ser Ser Glu Trp Arg Lys Asp Ala		560
	565	570
Asn Pro Arg Tyr Ala Val Tyr Gly Phe Pro Ala Gly Ile Thr Glu Asp		575
	580	585
Ser Arg Thr Ile Arg Asn Gln Tyr Gly Leu Leu Tyr Asn Ala Gly Val		590
	595	600
Phe Ser Gly Ser Thr Ser Leu Val Thr Glu Gly Trp Lys Ile Pro Asn		605
610	615	620
His Leu Gly Asp Trp Asp Lys Leu Arg Asn Phe Leu Gly Gly Asp Ser		625
	630	635
Lys Val Ala Glu Ala Leu Ser Ile Ala Gly Phe Val Gly Lys Pro Gly		640
	645	650
Gly Arg Arg Asn Ala Asp Glu Pro Phe Ala Phe Gln Glu Lys Asp Glu		655
	660	665
Val Gly Tyr Trp Trp Phe Ser Ser Val Asp Gly His Asn Cys Trp Ala		670
	675	680
Leu Ser Ile Asn Pro Ser Asn Val Ser Val Pro Gln Ser Thr Asn Thr		685
690	695	700
Tyr Ser Arg Gly Tyr Gly Phe Ser Ile Arg Phe Ile Arg Gln		705
705	710	715

<210> 10316
 <211> 397
 <212> PRT
 <213> B.fragilis

<400> 10316

Leu Ile Ile Val Asn Met Lys Asn Ile Ile Gly Ile Leu Gly Val Phe		
1	5	10
Ile Leu Ala Ile Ser Cys Ser Gly Gly Lys Lys Glu Ser Ala Asp Ala		15
	20	25
Gly Leu Glu Leu Thr Glu Asp Ser Val Val Tyr Leu Leu Ala Asp Asn		30
	35	40
Val Thr Leu Gly Ile Lys Ala Leu Phe Pro Phe Ile Asp Lys Asp Gly		45
	50	55
His Glu Tyr Leu Thr Phe Gln Asn Gln Leu Glu Pro Glu Ile Cys Val		60
65	70	75
Tyr Asp Leu Gln Ser Gly Glu Phe Val Lys Ser Ile Phe Phe Asp Arg		80
	85	90
Glu Gly Ala Asn Gly Val Gly Met Phe Gly Gly Tyr His Ile Ile Asp		95
	100	105
Phe Asp Glu Ile Tyr Leu Pro Ser Leu Gln Gln Ser Lys Val Phe Val		110
	115	120
Met Glu Glu Ser Gly Lys Lys Lys Arg Glu Ile Ile Thr Glu Lys Thr		125
	130	135
Asp Asp Gly Ile Pro Leu Leu Pro Phe Gly Ala Ile Thr Phe Ala Tyr		140
145	150	155
Arg Pro Ile Tyr Phe Asn Asn Arg Lys Met Tyr Ile Pro Gln Thr Ile		160
	165	170
Asn Met Arg Leu Gly Asn Lys Val Met Glu Lys Ser Pro Val Tyr Val		175
	180	185
Val Val Asp Thr Val Lys Asn Val Leu Ser Pro Phe Pro Ile Lys Phe		190
	195	200
Pro Pro Ile Met Ser Ser Asp Asp Val Thr Lys Pro Ser Leu Gly Asn		205
210	215	220
Glu Leu Ser Tyr Ser Cys Cys Leu Asn Asp Lys Asp Gln Phe Val Phe		

10316 397 PRT B.fragilis

<400> 10317

Arg	Tyr	Ser	Lys	Thr	Leu	Lys	Thr	Leu	Leu	Tyr	Ile	Leu	Val	Phe	Ser
1				5					10					15	
Leu	Cys	Tyr	Thr	Asn	Ala	Tyr	Cys	Gln	Ser	Ile	Pro	Arg	Glu	Val	Thr
			20					25					30		
Leu	Asp	Glu	Val	Ile	Asn	Arg	Leu	Ser	Leu	Glu	Ser	Ser	Ser	Ala	Lys
		35					40					45			
Ile	Glu	Leu	Leu	Asn	Phe	Gln	Asn	Asp	Leu	Leu	Arg	Tyr	Glu	Asn	Tyr
	50					55					60				
Lys	Lys	Ser	Phe	Leu	Pro	Ala	Phe	Val	Leu	Asn	Phe	Asn	Pro	Ile	Asn
65				70						75				80	
Phe	Asn	Arg	Ser	Leu	Arg	Leu	Leu	Gln	Gln	Pro	Ile	Asp	Gly	Ser	Tyr
			85						90					95	
Ser	Tyr	Val	Glu	Asp	Asn	Ser	Asn	Asn	Thr	Asn	Phe	Gly	Thr	Thr	Val
			100					105					110		
Arg	Gln	Lys	Ile	Ser	Ile	Thr	Gly	Gly	Glu	Leu	Ser	Ile	Gly	Ser	Asn
		115					120					125			
Ile	Asn	Tyr	Leu	Asn	Glu	Phe	Ser	Arg	Lys	Gln	Asn	Ser	Phe	Ser	Thr
	130					135					140				
Asn	Pro	Phe	Phe	Ile	Ser	Tyr	Ser	Gln	Gln	Leu	Trp	Gly	Gly	Gly	Lys
145				150						155				160	
Leu	Gln	Arg	Leu	Glu	Asn	Lys	Ile	Glu	Arg	Ala	Lys	Asn	Glu	Val	Ala
			165						170					175	
Val	Lys	Gln	Tyr	Cys	Ser	Asn	Ile	Ala	Gln	Ile	Gln	Gln	Gln	Ala	Leu
		180						185					190		
Thr	Leu	Tyr	Leu	Ser	Ala	Ile	Leu	Ser	Lys	Met	Asp	Ser	Glu	Leu	Ala
	195						200					205			
Ile	Asp	Ile	Lys	Gln	Ser	Asn	Asp	Thr	Leu	Leu	His	Ile	Ala	Glu	Ile
	210					215					220				
Lys	Leu	Arg	Asn	Gly	Ser	Ile	Thr	Glu	Tyr	Asp	Tyr	Lys	Gln	Met	Glu
225				230						235				240	
Leu	Gln	Ser	Leu	Asn	Leu	Gln	Tyr	Met	Tyr	Glu	Asn	Ala	Val	Lys	His

Tyr Ala Glu Ser Ile Gln Lys Leu Phe Thr Phe Leu Gly Ile Glu Asn
 245 250 255
 260 265 270
 Asn Ala Glu Ile Thr Ile Pro Asp Phe Asp Leu Pro Leu Thr Ile Asp
 275 280 285
 Ala Arg Leu His His Gly Gly Gly Arg Ile Ser Ala His Val Ser Leu
 290 295 300
 Thr
 305

<210> 10318
 <211> 83
 <212> PRT
 <213> B.fragilis

<400> 10318
 Pro Arg Ser Glu Gly Tyr Val Val Tyr Ser Val Glu Gln Ala Glu Gly
 1 5 10 15
 Ser Ile Met Leu Asp Glu Leu Thr Leu Asp Arg Ser Lys Lys Tyr Ala
 20 25 30
 Val Val Met Gly Asn Glu Val Lys Gly Val Gln Gln Glu Val Ile Asp
 35 40 45
 His Ser Asp Gly Cys Ile Glu Ile Pro Gln Tyr Gly Thr Lys His Ser
 50 55 60
 Leu Asn Val Ser Val Thr Ala Gly Ile Val Ile Trp Asp Leu Phe Lys
 65 70 75 80
 Lys Leu Lys

<210> 10319
 <211> 80
 <212> PRT
 <213> B.fragilis

<400> 10319
 Thr Asp Pro Leu Asp Pro Ser Ser Pro Val Val Lys Thr Leu Tyr Lys
 1 5 10 15
 Tyr Arg Val Phe Ile Ser Asp Phe Lys Glu Asn Lys Glu Lys Phe Gln
 20 25 30
 Asp Asn Lys Phe Pro Asn Ser Ile Asn Val Ser Lys Arg Ile Lys Gln
 35 40 45
 Thr Thr Tyr His Ser Phe Phe Ile Tyr Ser His Pro Val Trp Val Ile
 50 55 60
 Tyr Pro Lys Pro Leu Pro Leu His Pro Gln Asn Pro Asn Lys Ser Asp
 65 70 75 80

<210> 10320
 <211> 140
 <212> PRT
 <213> B.fragilis

<400> 10320
 Phe Arg Thr Asp Ile Lys Met Thr Ala Gln Glu Phe Phe Lys Asn Asp
 1 5 10 15
 Leu Phe Ala Thr Asn Ala Gly Val Glu Leu Ile Glu Ile Arg Glu Gly
 20 25 30
 Tyr Ser Lys Ala Lys Leu Glu Ile Lys Pro Glu His Leu Asn Ala Gly
 35 40 45
 Gln Arg Thr Gln Gly Gly Ala Ile Phe Thr Leu Ala Asp Leu Ala Leu

50	55	60
Ala Ala Ala Ala Asn Ser His Gly Thr Leu Ala Phe Ser Leu Ser Ser		
65	70	75
Asn Ile Thr Phe Leu Arg Ala Ser Gly Pro Gly Asp Thr Leu Tyr Ala		80
	85	90
Glu Ala Arg Glu Arg Tyr Thr Gly Arg Ser Thr Gly Tyr Tyr Gln Ile		95
	100	105
Asp Val Thr Asp Gln Glu Gly Arg Leu Ile Ala Thr Phe Glu Ser Ser		110
	115	120
Val Phe Arg Lys Lys Asp Glu Val Pro Phe Thr Leu		125
	130	135
		140

<210> 10321

<211> 304

<212> PRT

<213> B.fragilis

<400> 10321

Ala Gln Ser Arg Thr Asn Leu Lys Asn Arg Asn Gln Met Lys Thr Arg		
1	5	10
Arg Lys Arg Pro Glu Ile Val Lys Thr Gln Thr Val Ala Ala Ala Ile		15
	20	25
Arg Arg Lys Glu Trp Ile Cys Leu Ile Ile Ala Leu Leu Phe Ala Phe		30
	35	40
Pro Ser Ser Gly Asn Ala Gln Cys Glu Ala Lys Asn Asp Ala Phe Lys		45
	50	55
Ser Gly Glu His Val Met Tyr Glu Leu Tyr Phe Asn Trp Lys Phe Ile		60
65	70	75
Trp Lys Lys Val Gly Leu Ala Ser Leu Thr Thr Asn Ser Thr Thr Tyr		80
	85	90
His Ser Glu Pro Ala Tyr Arg Val Asn Leu Leu Ala Ile Ser Ser Lys		95
	100	105
Glu Ala Asp Phe Phe Phe Lys Met Arg Asp Thr Leu Thr Ser Val Met		110
	115	120
Thr Glu Lys Leu Glu Pro Arg Tyr Phe Arg Lys Gly Ala Glu Glu Gly		125
	130	135
Lys Arg Tyr Thr Val Asp Glu Ala Arg Phe Ser Phe Arg Glu Gly Met		140
145	150	155
Cys Tyr Val Asn Gln Lys Arg Val Arg Lys Asp Gly Ser Ile Thr Glu		160
	165	170
Thr Glu Gln Ser Asp Asn Arg Cys Ile Tyr Asp Met Leu Thr Ile Leu		175
	180	185
Ala Gln Ala Arg Ser Phe Asp Pro Lys Glu Tyr Thr Ile Gly Gln Arg		190
	195	200
Ile Gln Phe Pro Met Ala Thr Gly Arg Arg Val Glu Glu Gln Thr Leu		205
	210	215
Ile Tyr Arg Gly Ile Lys Lys Ile Thr Ala Glu Asn Asp Thr Thr Tyr		220
225	230	235
Arg Cys Leu Ile Phe Ser Leu Val Glu Tyr Asn Lys Lys Gly Lys Glu		240
	245	250
Lys Glu Val Ile Thr Phe Tyr Val Thr Asp Asp Arg Asn His Leu Pro		255
	260	265
Val Arg Leu Asp Met His Leu Asn Phe Gly Ser Ala Lys Ala Phe Leu		270
	275	280
Lys Ser Val Ser Gly Tyr Arg His Pro Gln Thr Ser Ile Val Thr Lys		285
	290	295
		300

<210> 10322

<211> 320

<212> PRT
<213> B.fragilis

<400> 10322

His	Lys	Arg	Ile	Lys	Ala	His	Gln	Thr	Asp	Tyr	Val	Ser	Phe	Ile	Leu
1				5					10					15	
Tyr	Leu	Leu	Ala	Ser	Cys	Leu	Gly	Asp	Ile	Pro	Lys	Thr	Thr	Thr	Phe
			20					25					30		
Ala	Pro	Ser	Lys	Pro	Lys	Gln	Lys	Arg	Leu	Met	Lys	Tyr	Lys	Leu	Leu
		35					40					45			
Val	Leu	Asp	Leu	Asp	Gly	Thr	Leu	Thr	Asn	Ala	Lys	Lys	Glu	Ile	Thr
	50					55					60				
Pro	Arg	Asn	Arg	Glu	Ala	Leu	Ile	Arg	Val	Gln	Gln	Gln	Gly	Val	Lys
65					70					75					80
Leu	Ile	Leu	Ala	Ser	Gly	Arg	Pro	Thr	Phe	Gly	Ile	Ala	Pro	Leu	Ala
				85					90					95	
Asp	Glu	Leu	Arg	Met	Lys	Glu	Phe	Gly	Gly	Phe	Ile	Leu	Ser	Tyr	Asn
			100					105					110		
Gly	Gly	Glu	Ile	Ile	Asp	Trp	Ser	Thr	Gly	Glu	Ile	Val	Tyr	Ala	Asn
		115					120					125			
Val	Leu	Pro	Asp	Glu	Val	Ile	Pro	Arg	Leu	Tyr	Glu	Cys	Ala	Thr	Arg
	130					135					140				
Asn	Gln	Leu	Pro	Ile	Leu	Thr	Tyr	Asp	Arg	Gln	Tyr	Ile	Ile	Thr	Glu
145					150					155					160
Tyr	Pro	Asp	Asp	Val	Tyr	Val	Arg	Lys	Glu	Ala	Phe	Leu	Asn	Lys	Met
			165						170					175	
Gln	Ile	Tyr	Pro	Ser	Lys	Asp	Phe	Leu	Lys	Asp	Ile	Arg	Leu	Pro	Leu
			180					185					190		
Pro	Lys	Cys	Leu	Ile	Val	Gly	Glu	Pro	His	Arg	Leu	Ile	Pro	Ile	Glu
		195					200					205			
Ala	Glu	Leu	Ser	Val	Glu	Leu	Gln	Gly	Gln	Leu	Ser	Val	Tyr	Arg	Ser
	210					215						220			
Glu	Pro	Phe	Phe	Leu	Glu	Leu	Val	Pro	Gln	Gly	Ile	Asp	Lys	Ala	Gln
225					230					235					240
Ser	Leu	Ser	Val	Leu	Leu	Asn	Lys	Leu	Asn	Met	Asn	Arg	Glu	Glu	Ile
			245						250					255	
Val	Ala	Val	Gly	Asp	Gly	Tyr	Asn	Asp	Leu	Ser	Met	Ile	Gln	Phe	Ala
		260						265					270		
Gly	Leu	Gly	Val	Ala	Met	Gly	Asn	Ala	Gln	Glu	Pro	Val	Lys	Lys	Ala
	275						280					285			
Ala	Asp	Tyr	Ile	Thr	Leu	Ser	Asn	Glu	Glu	Asp	Gly	Val	Ala	Ala	Val
	290					295					300				
Val	Asn	Lys	Phe	Phe	Thr	Lys	Ala	Pro	Glu	Lys	Gly	Glu	Thr	Thr	Ala
305					310					315					320

<210> 10323
<211> 495
<212> PRT
<213> B.fragilis

<400> 10323

Ile	Ser	Asn	Val	Met	Glu	His	Gln	Leu	Thr	Ile	Tyr	Asn	Thr	Leu	Asp
1				5					10					15	
Arg	Lys	Lys	Glu	Leu	Phe	Val	Pro	Leu	His	Ala	Pro	His	Val	Gly	Met
			20					25					30		
Tyr	Val	Cys	Gly	Pro	Thr	Val	Tyr	Gly	Asp	Ala	His	Leu	Gly	His	Ala
		35					40					45			
Arg	Pro	Ala	Ile	Thr	Phe	Asp	Val	Leu	Phe	Arg	Tyr	Leu	Thr	Arg	Leu
	50					55					60				

Gly	Tyr	Lys	Val	Arg	Tyr	Val	Arg	Asn	Ile	Thr	Asp	Val	Gly	His	Leu
65					70					75					80
Glu	His	Asp	Ala	Asp	Glu	Gly	Glu	Asp	Lys	Ile	Ala	Lys	Lys	Ala	Arg
				85					90					95	
Leu	Glu	Gln	Leu	Glu	Pro	Met	Glu	Val	Val	Gln	Tyr	Tyr	Leu	Asn	Arg
			100					105					110		
Tyr	His	Lys	Ala	Met	Glu	Ala	Leu	Asn	Val	Leu	Pro	Pro	Ser	Ile	Glu
		115					120						125		
Pro	His	Ala	Ser	Gly	His	Ile	Ile	Glu	Gln	Ile	Glu	Leu	Val	Lys	Lys
	130					135					140				
Ile	Leu	Asp	Ala	Gly	Tyr	Ala	Tyr	Glu	Ser	Gln	Gly	Ser	Val	Tyr	Phe
145					150					155					160
Asp	Val	Ala	Lys	Tyr	Asn	Lys	Asp	His	His	Tyr	Gly	Lys	Leu	Ser	Gly
			165					170						175	
Arg	Asn	Leu	Asp	Asp	Val	Leu	Asn	Thr	Thr	Arg	Glu	Leu	Asp	Gly	Gln
			180					185					190		
Glu	Glu	Lys	His	Asn	Pro	Ala	Asp	Phe	Ala	Leu	Trp	Lys	Arg	Ala	Gln
		195					200					205			
Pro	Glu	His	Ile	Met	Arg	Trp	Pro	Ser	Pro	Trp	Gly	Asp	Gly	Phe	Pro
	210					215					220				
Gly	Trp	His	Ala	Glu	Cys	Thr	Ala	Met	Gly	Arg	Lys	Tyr	Leu	Gly	Glu
225					230					235					240
His	Phe	Asp	Ile	His	Gly	Gly	Gly	Met	Asp	Leu	Ile	Phe	Pro	His	His
			245					250						255	
Glu	Cys	Glu	Ile	Ala	Gln	Ser	Val	Ala	Ser	Gln	Gly	Asp	Asp	Met	Val
		260						265					270		
His	Tyr	Trp	Met	His	Asn	Asn	Met	Ile	Thr	Ile	Asn	Gly	Thr	Lys	Met
	275						280					285			
Gly	Lys	Ser	Leu	Gly	Asn	Phe	Ile	Thr	Leu	Asp	Glu	Phe	Phe	Ser	Gly
	290					295					300				
Ser	His	Lys	Leu	Leu	Thr	Gln	Ala	Tyr	Ser	Pro	Met	Thr	Ile	Arg	Leu
305					310					315					320
Phe	Ile	Leu	Gln	Ala	His	Tyr	Arg	Ser	Pro	Val	Asp	Phe	Ser	Asn	Glu
			325						330					335	
Ala	Leu	Gln	Ala	Ala	Glu	Lys	Gly	Leu	Ser	Arg	Leu	Met	Glu	Ala	Val
		340						345					350		
Asp	Ser	Leu	Glu	Lys	Ile	Thr	Pro	Ala	Ala	Thr	Ser	Asn	Val	Asp	Val
		355					360					365			
Lys	Ser	Leu	Arg	Thr	Lys	Cys	Phe	Glu	Ala	Met	Asn	Asp	Asp	Leu	Asn
	370					375					380				
Thr	Pro	Ile	Val	Ile	Ser	His	Leu	Phe	Asp	Gly	Ala	Lys	Met	Ile	Asn
385					390					395					400
Asn	Ile	Ile	Ala	Gly	Asn	Asn	Thr	Ile	Ser	Ala	Asp	Asp	Leu	Lys	Asp
			405					410					415		
Leu	Lys	Glu	Val	Phe	His	Thr	Phe	Cys	Phe	Asp	Ile	Leu	Gly	Leu	Lys
		420						425					430		
Glu	Glu	Ile	Gly	Ser	Ser	Asp	Gly	Arg	Glu	Ala	Ala	Tyr	Gly	Lys	Val
		435					440					445			
Val	Asp	Met	Leu	Leu	Glu	Gln	Arg	Val	Lys	Ala	Lys	Ala	Asn	Lys	Asp
	450					455					460				
Trp	Ala	Thr	Ser	Asp	Leu	Ile	Arg	Asn	Glu	Leu	Thr	Ala	Leu	Gly	Phe
465					470					475					480
Glu	Ile	Lys	Asp	Thr	Lys	Asp	Gly	Phe	Glu	Trp	Lys	Leu	Asn	Lys	
			485						490					495	

<210> 10324

<211> 214

<212> PRT

<213> B.fragilis

[illegible]

<211> 62

<212> PRT

<213> B.fragilis

Asn	Tyr	Pro	Pro	His	Ile	Arg	Lys	Ala	Ile	Lys	Ala	Phe	Leu	Tyr	Tyr
1				5					10					15	
Leu	Lys	Ile	Pro	Lys	Asn	Thr	Ile	Phe	Phe	Leu	Pro	Lys	Lys	Leu	Ser
			20					25					30		
Ile	Thr	Tyr	Ser	Phe	Phe	Thr	Phe	Lys	Asn	Leu	Tyr	Leu	Ile	Glu	Asn
			35				40					45			
His	Leu	Lys	Ile	Phe	Tyr	Tyr	Leu	Lys	Ser	Leu	Ser	Asn	Thr		
	50					55				60					

<211> 73

<212> PRT

<213> B.fragilis

Arg	His	Ser	Leu	Pro	Thr	Gly	Ile	Ile	Ala	Thr	Lys	Tyr	Ser	Asp	Gly
1				5					10					15	
Phe	Phe	Leu	Pro	Ser	Arg	Lys	Thr	Asn	Leu	Ile	Ser	Ile	Ala	Leu	Ile
			20					25					30		
Ala	Thr	Ala	Leu	Leu	Cys	Tyr	Asp	Trp	Ser	Leu	Ser	Leu	Lys	Trp	Trp
		35					40					45			
Ser	Leu	Leu	Tyr	Ile	Leu	Met	Phe	Ile	Ile	Cys	Leu	Ala	Ile	Pro	Asp

50 55 60
 Tyr Leu Val Arg Gln Lys Thr Lys Lys
 65 70

<210> 10327
 <211> 453
 <212> PRT
 <213> B.fragilis

<400> 10327

Ile Thr Val Pro Ser Arg Gly Gln Glu Gly Arg Leu Leu Thr His Tyr
 1 5 10 15
 Ser Lys Thr Ser Met Asn Lys Arg Cys Leu Leu Thr Ile Leu Gly
 20 25 30
 Gly Cys Ala Ala Met Gly Ala Phe Ala Gln Gln His Ala Thr Gly Lys
 35 40 45
 Lys Thr Glu Met Ser Val Asp Leu Asn Pro Val Val Val Thr Gly Thr
 50 55 60
 Gly Thr His Gln Arg Leu Lys Asn Thr Pro Ala Pro Val Glu Val Val
 65 70 75 80
 Thr Ala Asn Glu Ile Lys Lys Ala Gly Ile Thr Asp Phe Gln Gln Ala
 85 90 95
 Met Thr Met Leu Val Pro Ser Leu Ser Phe Ser Thr Asn Ser Met Gly
 100 105 110
 Ser Tyr Leu Met Met Asn Gly Leu Ser Asn Lys Tyr Val Leu Ile Leu
 115 120 125
 Ile Asn Gly Arg Lys Leu Thr Gly Asp Thr Ala Asn Asn Ile Asp Leu
 130 135 140
 Ser Arg Ile Asp Met Ser Arg Val Lys Arg Ile Glu Val Leu Asp Gly
 145 150 155 160
 Ala Gly Ser Ser Leu Tyr Gly Ser Asp Ala Ile Ala Gly Val Ile Asn
 165 170 175
 Ile Ile Thr Asn Glu Pro Lys Glu Leu Met Gln Val Thr Ser Thr Thr
 180 185 190
 Arg Tyr Glu Asp His Arg Gln Leu Thr Gln Met Val Asn Ala Asp Ile
 195 200 205
 Ala Thr Glu Lys Phe Gly Ser Tyr Thr Ser Tyr Lys His Glu Gln Ser
 210 215 220
 Ala Gly Trp Gln Asn Ser Asp Leu Ala Tyr Val Thr Asp Lys Lys Gly
 225 230 235 240
 Asn Val Ser Thr Val Pro Thr Val Ser Ala Thr Ser Asn Gly Phe His
 245 250 255
 Ser Asn Leu Val Asn Gln Lys Phe Thr Phe Glu Pro Thr Glu Lys Leu
 260 265 270
 Ser Phe Tyr Ala Asn Gly Gly Tyr Tyr Trp Lys Leu Thr Asp Arg Pro
 275 280 285
 Val Tyr Thr Ala Asp Ile Asp Gly Gly Ser Lys Tyr Asp Leu His Tyr
 290 295 300
 Glu Ser Tyr Asn Phe Gly Leu Gly Gly Arg Tyr Lys Ile Asn Lys Arg
 305 310 315 320
 Ser Ser Ile Gln Leu Asp Leu Met Asn Asp Asn Tyr Met Gln Asn Tyr
 325 330 335
 Lys Tyr Thr Val Ala Asp Asp Lys Asn Lys Ile Ala Ile Gly Asp Tyr
 340 345 350
 Ala Lys Thr Lys Glu Gln His Phe Tyr Asp Ala Glu Leu Lys Gly Ile
 355 360 365
 Phe Asn Phe Ala Lys Asn Asn Met Thr Val Leu Gly Val Asp Tyr Arg
 370 375 380
 Ser Glu Ser Leu Asp Arg Pro Ser Ala Arg Val Asp Lys Ser Val Tyr

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<210> 10328
<211> 77
<212> PRT
<213> B.fragilis
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<210> 10329
<211> 210
<212> PRT
<213> B.fragilis
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<400>	10329														
Ser	Lys	Glu	Thr	Ile	Asn	Val	Lys	Leu	Asn	Phe	Lys	Arg	Glu	Phe	Met
1				5					10					15	
Lys	Arg	Lys	Leu	Met	Leu	Leu	Leu	Thr	Cys	Leu	Phe	Met	Gly	Ile	Gly
			20					25					30		
Leu	Val	Thr	Ala	Gln	Thr	Gln	Lys	Val	Thr	Gly	Val	Val	Ile	Ser	Glu
		35					40					45			
Glu	Asp	Gly	Gln	Pro	Val	Val	Gly	Ala	Ser	Val	Leu	Ala	Lys	Gly	Thr
	50					55					60				
Thr	Val	Gly	Val	Ile	Thr	Asp	Val	Asp	Gly	Lys	Phe	Thr	Leu	Ser	Gly
65					70					75					80
Ile	Pro	Ser	Ser	Ala	Lys	Thr	Leu	Gln	Ile	Ser	Tyr	Ile	Gly	Met	Gln
				85					90					95	
Thr	Ala	Glu	Val	Ala	Ile	Ala	Pro	Val	Ile	Lys	Val	Ile	Leu	Lys	Thr
			100					105					110		
Asp	Ala	Lys	Ala	Leu	Asp	Glu	Val	Val	Val	Thr	Ala	Met	Gly	Ile	Ser
		115					120					125			
Lys	Glu	Lys	Lys	Ala	Leu	Gly	Tyr	Ala	Val	Gln	Asp	Val	Lys	Gly	Asp
	130					135					140				
Lys	Leu	Thr	Gln	Ala	Ser	Ser	Ser	Asn	Leu	Ser	Ser	Ala	Leu	Gln	Gly
145					150					155				160	
Lys	Val	Ser	Gly	Val	Glu	Ile	Ser	Pro	Ser	Ser	Gly	Met	Pro	Gly	Ala
				165					170					175	
Ser	Ser	Lys	Met	Thr	Ile	Arg	Gly	Ser	Arg	Ser	Phe	Thr	Gly	Asp	Asn
			180					185					190		
Thr	Pro	Leu	Tyr	Val	Val	Val	Phe	Thr	Lys	Gly	Val	His	Pro	Thr	Val
		195					200					205			

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<210> 10330
<211> 68
<212> PRT
<213> B.fragilis
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<210> 10331
<211> 614
<212> PRT
<213> B.fragilis

<220>
<221> UNSURE
<222> (570), (587)
<223> Identity of amino acid sequences at the above locations are unknown.

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<400>	10331																
Lys	Gln	Thr	Leu	Ser	Asp	Thr	Ser	Ser	Pro	Val	Val	Arg	Asn	Cys	Ser		
1				5					10					15			
Met	Ser	Ser	Thr	Ile	Asn	Gly	Cys	Gly	Val	Trp	Met	Cys	Ser	Asp	His		
			20					25					30				
Thr	Ile	Phe	Ile	Gly	Gly	Thr	Gly	Gly	Leu	Ser	Ser	Phe	Leu	Glu	Lys		
		35					40					45					
Asp	Leu	Asn	Lys	Glu	Tyr	Pro	Lys	Pro	Lys	Leu	Tyr	Phe	Ser	Ser	Leu		
	50					55					60						
Ser	Val	Asn	Asn	Ala	Arg	Ile	Ser	Pro	Asp	Asp	Lys	Ser	Arg	Ile	Leu		
65					70					75					80		
Thr	Glu	Gly	Leu	Pro	Phe	Val	Arg	Glu	Ile	Asn	Leu	Asn	Ala	Thr	Gln		
				85					90					95			
Asn	Asn	Leu	Thr	Val	Glu	Phe	Ala	Ser	Ser	Asn	Tyr	Val	Asp	Ile	Leu		
			100					105					110				
Asn	Asn	Thr	Trp	Tyr	Glu	Tyr	Gln	Leu	Glu	Gly	Phe	Asp	Lys	Gln	Trp		
		115					120					125					
Ser	Leu	Thr	Ser	Gln	Thr	Ser	Leu	Lys	Tyr	Thr	Asn	Leu	Asp	Pro	Gly		
	130					135					140						
Asp	Tyr	Val	Leu	His	Val	Arg	Gln	Lys	Gly	Asn	Ser	Leu	Lys	Met	Arg		
145					150					155					160		
Lys	Ala	Gln	Glu	Ile	Leu	Leu	Gln	Ile	His	Ile	Asn	Thr	Pro	Trp	Tyr		
				165					170					175			
Leu	Thr	Trp	Trp	Ala	Trp	Leu	Ser	Tyr	Ile	Thr	Ile	Ser	Ile	Ser	Val		
		180						185					190				
Thr	Tyr	Phe	Ile	Trp	Arg	Glu	Lys	Ser	Ser	Arg	Arg	Thr	Leu	Ala	Met		
		195					200					205					
Ser	Leu	Glu	Lys	Glu	Arg	Ile	Glu	Lys	Glu	His	Ile	Glu	Glu	Met	Asn		
	210					215					220						

Gln Ala Lys Leu Arg Phe Phe Thr Asn Val Ser His Glu Phe Arg Thr
 225 230 235 240
 Pro Leu Thr Leu Ile Ile Ser Gln Val Glu Leu Met Leu Gln Lys Asn
 245 250 255
 Thr Ile Pro Pro Ser Leu His Asn Ser Ile Phe Arg Ile Arg Lys His
 260 265 270
 Ala Gln Gln Met Lys Leu Leu Ile Ser Glu Leu Leu Asp Phe Arg Lys
 275 280 285
 Phe Asp Gln Asn Tyr Ile Gln Leu Lys Leu Ser Glu Gln Ser Leu Asn
 290 295 300
 Thr Phe Leu Glu Glu Val Tyr Leu Ser Phe Ser Ala Tyr Ala Ser Gln
 305 310 315 320
 Lys Ser Ile Ser Tyr His Leu Lys Leu Leu Glu Gln Asp Ile Ser Ile
 325 330 335
 Trp Ile Asp Asp Trp Gln Met Arg Lys Val Leu Phe Asn Leu Leu Ser
 340 345 350
 Asn Ala Phe Lys His Val Pro Asp Lys Gly Glu Ile Ser Ile Leu Thr
 355 360 365
 Ser Thr Thr Pro Asp Gln Val Val Ile Ala Val Lys Asp Ser Gly Asn
 370 375 380
 Gly Ile Ser Lys Glu Glu Gln Glu Arg Ile Phe Asp Arg Phe Tyr Gln
 385 390 395 400
 Ala Asp Asn Arg Asn Lys Ala Ile His Val Gly Thr Gly Ile Gly Leu
 405 410 415
 Ala Leu Thr Lys Ser Ile Ile Gln Leu His His Gly Thr Ile Glu Val
 420 425 430
 Glu Ser Glu Leu Asn Glu Gly Ser Cys Phe Ile Val Lys Leu Pro Lys
 435 440 445
 Thr Arg Asp Cys Phe Glu Lys Asp Thr Glu Val Val Phe Leu Glu Ser
 450 455 460
 Pro Glu Lys Glu Pro Met Val Gln Glu Asn Thr Ile Pro Asp Glu Asn
 465 470 475 480
 Phe Met Lys Lys Asp Asp Ser Thr Phe Glu Thr Pro Leu Ile Asp Glu
 485 490 495
 Arg Glu Gly Lys Arg Lys Val Leu Leu Val Glu Asp Asn Val Glu Leu
 500 505 510
 Leu Gln Val Leu Lys Glu Ile Phe Ser Ser Leu Tyr Gln Val Val Thr
 515 520 525
 Ala Ala Asn Gly Glu Glu Gly Leu Lys Gln Ala Phe Ala Glu Val Pro
 530 535 540
 Asp Leu Ile Val Ser Asp Val Met Met Pro Val Met Thr Gly Thr Glu
 545 550 555 560
 Met Cys Leu Lys Ile Lys Asn Asn Ile Xaa Leu Cys His Ile Pro Val
 565 570 575
 Val Leu Leu Thr Ala Leu Asp Thr Val Asp Xaa Asn Ile Glu Gly Leu
 580 585 590
 Pro Arg Gly Ala Asp Asp Tyr Ile Thr Gln Pro Phe Asn Ala Lys Asn
 595 600 605
 Leu Ile Thr Pro Cys Lys
 610

<210> 10332

<211> 145

<212> PRT

<213> B.fragilis

<400> 10332

Glu Asp Ser Thr Ile Ser Val Gly Ile Glu Arg Gly Lys Val Tyr Thr
 1 5 10 15


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<210> 10333
<211> 60
<212> PRT
<213> B.fragilis
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<210> 10334
<211> 193
<212> PRT
<213> B.fragilis
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<400>	10334															
Ser	Arg	Gln	Asn	Ile	Lys	Glu	Asp	Ser	Pro	Met	Lys	Leu	Leu	Leu	Pro	
1				5					10					15		
Leu	Leu	Leu	Phe	Cys	Leu	Pro	Phe	Asn	Gly	Ser	Asn	Gly	Gly	Lys	Glu	
			20					25					30			
Leu	Leu	Asp	Lys	Ala	Leu	Asp	Arg	Cys	Glu	Arg	Leu	Glu	Thr	Leu	Glu	
		35					40					45				
Asn	Tyr	Arg	Asp	Ile	Leu	Ser	Arg	Tyr	Gly	Val	Ser	Asp	Lys	Ile	Pro	
	50					55					60					
Leu	Ala	Cys	Pro	Leu	Lys	Asp	Arg	Phe	Arg	Lys	Ser	Ser	Gly	Phe	Gly	
65					70					75					80	
Ile	Arg	Ile	His	Pro	Ile	Thr	Gly	Lys	Arg	Ser	Phe	His	Ser	Gly	Ile	
				85					90					95		
Asp	Met	Ala	Val	Gly	Leu	Ala	Ala	Pro	Val	Tyr	Ala	Thr	Ala	Ser	Gly	
			100					105					110			
Thr	Val	Ser	Phe	Ala	Gly	Arg	Lys	Gly	Gly	Tyr	Gly	Arg	Cys	Val	Ile	
		115					120					125				
Ile	Arg	His	Ser	Tyr	Gly	Phe	Glu	Thr	Leu	Tyr	Ala	His	Leu	Ala	Ala	
	130					135					140					
Tyr	Tyr	Thr	Thr	Glu	Gly	Gln	Lys	Val	Asp	Lys	Gly	Ala	Val	Ile	Ala	

145 150 155 160
 Phe Ala Gly Ser Thr Gly Lys Ser Thr Gly Tyr His Leu His Tyr Glu
 165 170 175
 Ile Arg Lys Asn Gly Lys Pro Ile Lys Pro Tyr Trp Tyr Gly Tyr Asp
 180 185 190
 Asp

<210> 10335
 <211> 117
 <212> PRT
 <213> B.fragilis

<400> 10335
 Thr Ala His Arg Ser Val Ile Arg Arg Ile Ser Cys Gly Ser Thr Ser
 1 5 10 15
 Arg Met Pro Arg Ser Ala Lys Arg Arg Arg Tyr Ser Ser Ser Ser Arg
 20 25 30
 Thr Ser Cys Ser Leu Ser Ile Ile Pro Glu Glu Val Pro Ala His Glu
 35 40 45
 Ser Arg Thr Phe Thr Val Ala Met Asn Lys Phe Thr Ile Pro Asp Lys
 50 55 60
 Lys Arg Leu Ile Ile Glu Ile Gln Glu Arg Asn Gly Gly Arg His Phe
 65 70 75 80
 Leu Tyr Lys Leu Lys Asn Lys Ser Leu Leu Thr Ala Glu Glu Val Phe
 85 90 95
 Arg Ser Arg Lys Gln Gln Glu Thr Glu Asp Glu Ala Asp Lys Ile Leu
 100 105 110
 Arg Arg Ile Ala Arg
 115

<210> 10336
 <211> 117
 <212> PRT
 <213> B.fragilis

<400> 10336
 Asn His Thr Gly Met Ala Met Thr Ile Glu Gln Glu Ile Glu Gln Leu
 1 5 10 15
 Val Leu Gln Cys Ile Ala Ser Asp Gly Leu Lys Ala Cys Pro Lys Asp
 20 25 30
 Leu Ala Phe Leu Glu Lys Tyr Gly Leu Lys Asn Leu Tyr Phe Phe Ser
 35 40 45
 Leu Glu Tyr Ala Met Glu Gly Thr Asp Thr Thr Val Leu Asp Ser Lys
 50 55 60
 Ala Lys Gly Leu Ile Arg Trp Tyr Leu Tyr Ser Thr Asp Phe Pro Leu
 65 70 75 80
 Leu Arg Gln Lys Tyr Glu Arg Glu Gly Lys Ala Glu Leu Met Lys Cys
 85 90 95
 Leu Tyr Leu Glu Glu Arg Tyr Phe Arg Lys Phe Leu Glu Ser Thr Gly
 100 105 110
 Gln Glu Glu Gly Leu
 115

<210> 10337
 <211> 64
 <212> PRT
 <213> B.fragilis

10335 10336 10337

Val	Val	Ala	Ala	Ala	Pro	Ser	Ser	Pro	Val	Val	Lys	Thr	Met	Ser	Asp
1				5					10					15	
Ser	Leu	Val	Glu	Arg	Lys	Gly	Ala	Ser	Asp	Glu	Gln	His	Arg	Lys	Leu
			20					25					30		
Leu	Tyr	Lys	Arg	Tyr	Gly	Arg	Leu	Thr	Phe	Arg	Glu	Gly	Lys	Ile	Ile
		35					40					45			
Phe	Leu	Asn	Ser	Arg	Cys	Pro	Ala	Phe	Tyr	Val	Lys	Lys	Glu	Glu	Lys
	50					55					60				

 $\langle 211 \rangle$ 51.5

<212> PRT

<213> B.fragilis

Thr 1	Ser	Lys	Tyr	Cys 5	Thr	Ser	Met	Asp	Ser 10	Ile	Leu	Phe	Trp	Leu 15	Val
Pro	Phe	Ala	Ser 20	Val	Leu	Ala	Leu	Cys 25	Phe	Ala	Leu	Tyr 30	Phe	His	Lys
Gln	Met	Met 35	Lys	Glu	Ser	Glu	Gly 40	Thr	Pro	Gln	Met 45	Ile	Lys	Ile	Ala
Ala	Ala	Val 50	Arg	Arg	Gly	Ala 55	Met	Ser	Tyr	Leu	Lys 60	Gln	Gln	Tyr	Lys
Ile 65	Val	Gly	Trp	Val 70	Phe	Leu	Gly	Leu	Val 75	Ile	Leu	Phe	Ser	Val	Met 80
Ala	Tyr	Gly	Phe 85	Gln	Val	Gln	Asn	Ala 90	Trp	Val	Pro	Ile	Ala	Phe 95	Leu
Thr	Gly	Gly	Phe 100	Phe	Ser	Gly	Leu	Ser 105	Gly	Phe	Leu	Gly	Met 110	Lys	Thr
Ala	Thr	Tyr 115	Ala	Ser	Ala	Arg	Thr 120	Ala	Asn	Ala	Ala	Arg	Thr	Ser	Leu
Asn	Ala	Gly 130	Leu	Arg	Ile	Ala 135	Phe	Arg	Ser	Gly	Ala 140	Val	Met	Gly	Leu
Val 145	Val	Val	Gly	Leu 150	Gly	Leu	Leu	Asp	Ile	Ser	Phe 155	Trp	Tyr	Leu	Leu 160
Leu	Asn	Trp	Ala 165	Ile	Pro	Ala	Asp	Val 170	Leu	Thr	Pro	Thr	His	Lys	Leu
Cys	Ile	Ile	Thr 180	Thr	Thr	Met	Leu	Thr 185	Phe	Gly	Met	Gly	Ala 190	Ser	Thr
Gln	Ala	Leu 195	Phe	Ala	Arg	Val	Gly 200	Gly	Gly	Ile	Tyr 205	Thr	Lys	Ala	Ala
Asp	Val	Gly 210	Ala	Asp	Leu	Val 215	Gly	Lys	Val	Glu	Ala 220	Gly	Ile	Pro	Glu
Asp 225	Asp	Pro	Arg	Asn 230	Pro	Ala	Thr	Ile	Ala	Asp 235	Asn	Val	Gly	Asp	Asn 240
Val	Gly	Asp	Val 245	Ala	Gly	Met	Gly	Ala	Asp 250	Leu	Tyr	Glu	Ser	Tyr	Cys
Gly	Ser	Ile	Leu 260	Ala	Thr	Ala	Ala	Leu 265	Gly	Ala	Ala	Ala	Phe 270	Ile	His
Thr	Gly	Asp 275	Thr	Val	Met	Gln	Phe 280	Lys	Ala	Val	Ile	Ala	Pro	Met	Leu
Ile	Ala	Ala 290	Ile	Gly	Ile	Ile 295	Leu	Ser	Ile	Ile	Gly 300	Ile	Phe	Ser	Val
Arg 305	Thr	Lys	Glu	Asn 310	Ala	Thr	Met	Lys	Asp 315	Leu	Leu	Gly	Ser	Leu	Ala
Trp	Gly	Thr	Asn 325	Leu	Ser	Ser	Ala	Leu	Ile 330	Val	Ala	Ala	Thr	Phe	Phe
Ile	Leu	Trp	Leu 335	Leu	Gln	Leu	Asp	Asn	Trp	Met	Trp	Ile	Ser	Cys	Ala

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<210> 10339
<211> 299
<212> PRT
<213> B.fragilis
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<400> 10339															
Phe	Pro	Leu	Ser	Gln	Pro	Leu	Arg	Ala	Lys	Leu	Lys	Asp	Tyr	Ser	Met
1				5					10					15	
Phe	Asp	Lys	Lys	Phe	Asn	Phe	Tyr	Ile	Ala	Asn	Asp	Leu	Gly	Arg	Asn
			20					25					30		
Gly	Tyr	Tyr	Asp	Gln	Lys	Pro	Ile	Ala	Glu	Leu	Met	Gly	Thr	Met	Gly
		35					40					45			
Glu	Glu	Ile	Gly	Pro	Glu	Phe	Val	Leu	Ala	Ala	Gly	Asp	Ile	His	His
	50					55					60				
Phe	Glu	Gly	Val	Arg	Ser	Val	Asn	Asp	Pro	Leu	Trp	Met	Thr	Asn	Phe
65					70					75					80
Glu	Leu	Ile	Tyr	Ser	His	Pro	Glu	Leu	Met	Ile	Asp	Trp	Tyr	Pro	Val
				85					90					95	
Leu	Gly	Asn	His	Glu	Tyr	Arg	Gly	Asn	Thr	Gln	Ala	Val	Leu	Asp	Tyr
			100					105					110		
Ser	Gly	Val	Ser	Arg	Arg	Trp	Thr	Met	Pro	Ala	Arg	Tyr	Tyr	Thr	Lys
		115					120					125			
Thr	Phe	Gly	Glu	Lys	Gly	Ala	Thr	Val	Arg	Ile	Val	Trp	Ile	Asp	Thr
	130					135					140				
Ala	Pro	Leu	Ile	Asp	Lys	Tyr	Arg	Asn	Glu	Ser	Ala	Thr	Tyr	Pro	Asp
145					150					155					160
Ala	Cys	His	Gln	Asp	Met	Asn	Gly	Gln	Leu	Ala	Trp	Leu	Asp	Ser	Val
				165					170					175	
Leu	Thr	Val	Ala	Lys	Glu	Asp	Trp	Val	Ile	Val	Ala	Gly	His	His	Pro
			180					185					190		
Ile	Tyr	Ala	Glu	Thr	Pro	Lys	Asp	Gln	Ser	Glu	Arg	Ser	Asp	Leu	Gln
		195					200					205			
Ser	Arg	Leu	Asp	Pro	Ile	Leu	Arg	Lys	His	Lys	Val	Asp	Met	Tyr	Ile
	210					215					220				
Cys	Gly	His	Ile	His	Asn	Phe	Gln	His	Ile	Arg	Val	Pro	Gly	Ser	Asp

225 230 235 240
 Ile Asp Tyr Ile Val Asn Ser Ala Gly Ser Leu Ala Arg Lys Val Lys
 245 250 255
 Pro Ile Glu Gly Thr Gln Phe Cys Asn Pro Glu Pro Gly Phe Ser Val
 260 265 270
 Cys Ser Ile Asp Lys Gln Glu Leu Asn Leu Arg Met Ile Asp Lys Lys
 275 280 285
 Gly Asn Ile Leu Tyr Thr Val Thr Arg Lys Lys
 290 295

<210> 10340
 <211> 163
 <212> PRT
 <213> B.fragilis

<400> 10340
 Gly Leu Val Leu Thr Ser Ala Asp Pro Tyr Arg Pro Ala Val Lys Thr
 1 5 10 15
 Thr Arg Ile Lys Thr Pro Lys Asn Glu Val Val Thr Ile Pro Asn Ser
 20 25 30
 Phe Ile Met Ser Ser His Thr Val Asn Tyr Ser Ala Ser Ala Arg Glu
 35 40 45
 Tyr Gly Leu Ile Ile His Ser Glu Val Thr Ile Gly Tyr Asp Val Pro
 50 55 60
 Trp Arg Gln Val His Gln Leu Leu Ile Glu Ala Ala Leu Asn Thr Pro
 65 70 75 80
 Gly Val Ile Asp Asp Pro Arg Pro Phe Val Leu Glu Thr Ser Leu Ser
 85 90 95
 Asp Trp Tyr Pro Val Tyr Gln Ile Asn Ala Tyr Ile Arg Glu Ala Asp
 100 105 110
 Lys Leu Ala Gln Ile Tyr Ser Asp Leu His Gln Asn Ile Gln Asp Arg
 115 120 125
 Phe Asn Glu Ala Gly Ile Glu Ile Met Ser Pro His Tyr Met Ala Met
 130 135 140
 Arg Asp Gly Asn Glu Ser Thr Ile Pro Lys Asp Asp Leu Arg Pro Lys
 145 150 155 160
 Thr Asp Lys

<210> 10341
 <211> 333
 <212> PRT
 <213> B.fragilis

<220>
 <221> UNSURE
 <222> (270), (304), (309)
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 10341
 Phe Ile Ile Leu Leu Pro Ile Lys Tyr Glu Lys Ser Leu Phe Ser Ser
 1 5 10 15
 Leu Tyr Ile Thr Leu Ser His Ile Ala Ser Val Arg Gly Lys Ser Val
 20 25 30
 Ala Tyr Leu Ile Asn Lys Leu Phe Ser Asn Tyr Phe Pro Glu Ala Leu
 35 40 45
 Gln Ala Gln His Ser Tyr Phe Lys Leu Ile Pro Thr Ser Ser Glu Gly
 50 55 60
 Gly Asp Arg Pro Arg Pro Asp His Ser Leu Lys Lys Gln Gln Ile Leu

65		70		75		80									
Asn	Ile	Met	Lys	Ser	Phe	Lys	Ile	Met	Leu	Ile	Thr	Val	Leu	Ser	Val
		85							90					95	
Met	Thr	Leu	Ser	Cys	Ser	Glu	Lys	Thr	Thr	Thr	Glu	Ile	Pro	Glu	Thr
		100						105					110		
Glu	Leu	Lys	Asn	Ile	Ser	Cys	Ser	Thr	Gln	Leu	Val	Thr	His	Ser	Ser
		115						120					125		
Ala	Gln	Thr	Arg	Gly	Ala	Ala	Pro	Thr	Thr	Leu	Asn	Glu	Asn	Asp	Phe
		130					135					140			
Val	Leu	Tyr	Ala	Phe	Lys	Lys	Asn	Gly	Glu	Gly	Asn	Phe	Ser	Tyr	Glu
145					150					155					160
Glu	Ala	Lys	His	Glu	Thr	Ser	Val	Ile	Asp	Gly	Gly	Val	Trp	Lys	Tyr
				165					170					175	
Asn	Ala	Ala	Phe	Pro	Val	Gly	Thr	Tyr	Lys	Phe	Ile	Ala	Phe	Tyr	Asn
		180						185					190		
Leu	Asp	Glu	Lys	Asn	Gln	Ala	Ala	Leu	Asn	Thr	Thr	Ile	Thr	Gly	Ile
		195					200						205		
Ser	Asn	Gln	Thr	Trp	Glu	Asn	Ile	Leu	Lys	Ser	Ile	Val	Ile	Thr	His
		210					215					220			
Phe	Pro	Ser	Ala	Thr	Asp	Gln	Tyr	His	Glu	Asp	Met	Asn	Glu	Ile	Phe
225					230					235					240
Cys	Gly	Lys	Thr	Lys	Asp	Ala	Ile	Asp	Ile	Ser	Ser	Gly	Val	Gly	Gly
				245					250					255	
Asp	Asp	Asn	Glu	Ile	Lys	Ile	Lys	Leu	Thr	Leu	Glu	Arg	Xaa	Val	Ser
		260						265					270		
Arg	Ile	Asp	Ile	Lys	Phe	Ile	Lys	Val	Ala	Ser	Asp	Asp	Asp	His	Ile
		275					280						285		
Glu	Val	Pro	Tyr	Ala	Thr	Gly	Asn	Asn	Phe	Gly	Gly	Thr	Ser	Thr	Xaa
		290					295				300				
Ser	Trp	Thr	Ser	Xaa	Ile	Phe	Thr	Ser	Ala	Asn	Val	Pro	Leu	Lys	Tyr
305					310					315					320
Asn	Pro	Asn	Gly	Glu	Asn	Pro	Asp	Tyr	Val	Thr	Gly	Val			
			325						330						

<210> 10342

<211> 300

<212> PRT

<213> B.fragilis

<400> 10342

Leu	Asn	Ser	Lys	Ile	Val	Met	Ala	Lys	Glu	Ile	Leu	Phe	Asn	Ile	Glu
1			5						10					15	
Ala	Arg	Asp	Gln	Leu	Lys	Lys	Gly	Val	Asp	Ala	Leu	Ala	Asn	Ala	Val
		20						25					30		
Lys	Val	Thr	Leu	Gly	Pro	Lys	Gly	Arg	Asn	Val	Ile	Ile	Glu	Lys	Lys
		35					40						45		
Phe	Gly	Ala	Pro	His	Ile	Thr	Lys	Asp	Gly	Val	Thr	Val	Ala	Lys	Glu
		50					55				60				
Ile	Glu	Leu	Thr	Asp	Ala	Tyr	Gln	Asn	Thr	Gly	Ala	Gln	Leu	Val	Lys
65					70					75				80	
Glu	Val	Ala	Ser	Lys	Thr	Gly	Asp	Asp	Ala	Gly	Asp	Gly	Thr	Thr	Thr
				85					90				95		
Ala	Thr	Val	Leu	Ala	Gln	Ala	Ile	Ile	Ala	Glu	Gly	Leu	Lys	Asn	Val
		100						105					110		
Thr	Ala	Gly	Ala	Ser	Pro	Met	Asp	Ile	Lys	Arg	Gly	Ile	Asp	Lys	Ala
		115					120					125			
Val	Ala	Lys	Val	Val	Asp	Ser	Ile	Lys	His	Gln	Ala	Glu	Lys	Val	Gly
		130					135				140				
Asp	Asn	Tyr	Asp	Lys	Ile	Glu	Gln	Val	Ala	Thr	Val	Ser	Ala	Asn	Asn

145					150					155					160
Asp	Pro	Val	Ile	Gly	Lys	Leu	Ile	Ala	Asp	Ala	Met	Arg	Lys	Val	Ser
				165					170					175	
Lys	Asp	Gly	Val	Ile	Thr	Ile	Glu	Glu	Ala	Lys	Gly	Thr	Asp	Thr	Thr
			180					185					190		
Ile	Gly	Val	Val	Glu	Gly	Met	Gln	Phe	Asp	Arg	Gly	Tyr	Leu	Ser	Ala
		195					200					205			
Tyr	Phe	Val	Thr	Asn	Thr	Glu	Lys	Met	Glu	Cys	Glu	Met	Glu	Lys	Pro
	210					215					220				
Tyr	Ile	Leu	Ile	Tyr	Asp	Lys	Lys	Ile	Ser	Asn	Leu	Lys	Asp	Phe	Leu
225					230					235					240
Pro	Ile	Leu	Glu	Pro	Ala	Val	Gln	Ser	Gly	Arg	Pro	Leu	Leu	Gly	Ile
				245					250					255	
Ala	Glu	Asp	Val	Asp	Ser	Glu	Thr	Val	Ala	Thr	Leu	Val	Gly	Asn	Arg
			260					265					270		
Leu	Arg	Ser	Gln	Leu	Lys	Asn	Cys	Ala	Val	Lys	Ala	Arg	Gly	Phe	Gly
	275						280					285			
Asp	Arg	Arg	Lys	Lys	Met	Val	Glu	Lys	Phe	Pro	Phe				
	290					295					300				

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<210> 10343
<211> 93
<212> PRT
<213> B.fragilis
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<400> 10343
Lys Val Thr Met Asn Ile Lys Pro Leu Ala Asp Arg Val Leu Ile Leu
1          5          10          15
Pro Ala Pro Ala Glu Glu Lys Thr Ile Gly Gly Ile Ile Ile Pro Asp
20          25          30
Thr Ala Lys Glu Lys Pro Leu Lys Gly Glu Val Val Ala Val Gly His
35          40          45
Gly Thr Lys Asp Glu Glu Met Val Leu Lys Ala Gly Asp Thr Val Leu
50          55          60
Tyr Gly Lys Tyr Ala Gly Thr Glu Leu Glu Val Glu Gly Lys Lys Tyr
65          70          75          80
Leu Ile Met Arg Gln Ser Asp Val Leu Ala Val Leu Gly
85          90

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<210> 10344
<211> 123
<212> PRT
<213> B.fragilis
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<400> 10344																
Ser	Thr	Cys	Ser	Pro	Cys	Trp	Ala	Phe	Thr	Val	Asp	Gly	Ser	Arg	Ala	
1				5					10					15		
Cys	Ser	Leu	Asn	Val	Glu	Ala	Val	Pro	Thr	Glu	Gly	Thr	Tyr	Asp	Phe	
			20					25					30			
Thr	Gly	Gly	Thr	Leu	Ser	Val	Asn	Glu	Gly	Ser	Gly	Thr	Val	Ser	Ser	
		35					40					45				
Lys	Glu	Asn	Met	Leu	Leu	Leu	Leu	Pro	Gly	Arg	Leu	Glu	Glu	Arg	Arg	
	50					55					60					
Ala	Gln	Ile	Arg	Tyr	Leu	Asp	Arg	Thr	Tyr	Asp	Trp	Tyr	Leu	Pro	Ala	
65					70					75					80	
Asn	Thr	Phe	Glu	Ala	Gly	Lys	Arg	Tyr	Asp	Tyr	Ala	Leu	Thr	Leu	Ser	
				85					90					95		
Lys	Glu	Gly	Val	Leu	Ile	Leu	Ser	Gly	Val	Ser	Ala	Arg	Pro	Trp	Glu	
			100					105					110			

Thr Gly Gly Asp Tyr Thr Gly Thr Ile Gln Pro
115 120

<210> 10345
<211> 227
<212> PRT
<213> B.fragilis

<400> 10345
Ser Gly Ile Thr Ser Gly Ser Ser Glu Arg Glu Leu Arg Ser Arg Tyr
1 5 10 15
Asn Ser Arg Leu Leu Pro Gly Glu Arg Lys Asn Leu Pro Cys Arg Lys
20 25 30
Arg Arg Lys Arg Lys Tyr Gly Pro Gly Ser Ala Lys Pro Trp Ile Val
35 40 45
Cys Pro Gly His Arg Pro Ala Gly Asp Ser Thr Arg Ser Gly Ser Ser
50 55 60
Gly Arg Lys Arg Gly Met Ser Ser Arg His Ser Cys Thr Pro His Arg
65 70 75 80
Pro Val Trp Ser Gly Ser Thr Leu Lys Met Gln Leu Ala Glu Asn Cys
85 90 95
Leu Thr Asp Asp Gly Gln Arg Ile Arg Lys Gly Thr Pro Val Phe Gly
100 105 110
Glu Val Thr Gly Ile Asp Gly Glu Arg Val Leu Val Lys Ile Thr Ser
115 120 125
Val Asn Leu Gly Gly Asn Ile Leu Pro Phe Glu Lys Gln Val Tyr Ser
130 135 140
Glu Asp Ala Ile Gln Gly Ile Tyr Val Pro Gly Asn Val Lys Ala Glu
145 150 155 160
Thr Ala Gln Glu Ala Gly Ala Ala Gly Ile Ser Gly Ala Asn Thr Asn
165 170 175
Ile Ser Gly Gly Phe Asp Met Gly Ser Gln Leu Val Ala Gly Ala Ala
180 185 190
Asn Ser Val Ile Asn Ala Thr Lys Ser Ala Ala Ser Lys Asn Ile Arg
195 200 205
Lys Val Lys Val Thr Ile Lys Thr Asn Tyr Arg Ile Leu Leu Arg Gln
210 215 220
Pro Lys Glu
225

<210> 10346
<211> 60
<212> PRT
<213> B.fragilis

<400> 10346
Met Glu Thr Ala Phe Ala Gly Tyr Gly Met Asp Pro Asp Ala Lys Ala
1 5 10 15
Ala Ala Leu Pro Glu Pro Val Phe Gln Gly Thr Gly Glu Arg Asp Leu
20 25 30
Val Gly Tyr Ser Val Pro Gly Glu Tyr Ile Pro Val Val Phe Gln Cys
35 40 45
Leu Gln Ala Phe Ala Pro Val Gln Cys Leu Val Glu
50 55 60

<210> 10347
<211> 327
<212> PRT
<213> B.fragilis

6148 10345 10346 10347

<400> 10347

Leu Ile Ile Tyr Phe Phe Gln Met Lys Met Lys Thr Ser Phe Phe Leu
 1 5 10 15
 Ser Ala Val Met Ala Ala Gly Leu Leu Ala Ser Cys Ser Asn Ser Glu
 20 25 30
 Glu Val Phe Asn Glu Gln Val Thr Asp Gly Glu His Ser Gly Ala Gln
 35 40 45
 Leu Asn Ile Val Pro Thr Val Ser Ser Glu Ser Thr Glu Thr Arg Ala
 50 55 60
 Ser Phe Asp Pro Lys Thr Asp Trp Ala Ala Gly Asp Gly Ala Gly Leu
 65 70 75 80
 Phe Met Tyr Lys Val His Gly Trp Gly Asp Ala Tyr Pro Arg Tyr Asp
 85 90 95
 Ala Gln Asn Asn Lys Ser Thr Arg Gln Ala Asn Gly Trp Ser Gln Ala
 100 105 110
 Ser Pro Val Tyr Leu Leu Val Asp Lys Ala Thr Ile Trp Ala Tyr Tyr
 115 120 125
 Pro Tyr Asn Gln Ala Val Thr Asp Gly Thr Lys Ile Pro Val Pro Ile
 130 135 140
 Asn Val Gly Thr Ser Val Asp Tyr Met Trp Gly Lys Ser Thr Asn Gln
 145 150 155 160
 Val Ser Val Ile Glu Thr Asp Ala Arg Ile Pro Met Lys His Ala Leu
 165 170 175
 Ser Gln Phe Val Val Arg Leu Lys Val Ser Pro Glu Tyr His Asn Asp
 180 185 190
 Gly Asn Leu Thr Ser Ala Lys Leu Lys Ala Thr Ala Ser Lys Phe Ala
 195 200 205
 Thr Thr Gly Thr Met Asn Leu Asn Asp Gly Gly Lys Ile Thr Phe Gln
 210 215 220
 Pro Thr Ser Thr Glu Leu Thr Trp Ser Pro Asn Thr Thr Val Pro Ala
 225 230 235 240
 Gln Gly Gln Gln Ala Val Asp Tyr Ala Ala Ala Ile Tyr Pro Met Thr
 245 250 255
 Leu Ala Ala Gly Glu Val Ser Leu Glu Val Val Ile Asp Gly Ala Thr
 260 265 270
 Tyr Thr Tyr Ala Ile Pro Gln Ile Thr Trp Glu Ala Gly Lys Arg Tyr
 275 280 285
 Ile Tyr Ser Ile Thr Met Arg Ser Asn Asp Ala Glu Ile Gly Gly Lys
 290 295 300
 Asn Gly Gln Ser Val Thr Ile Glu Gly Trp Thr Ser Thr Glu Glu Asp
 305 310 315 320
 Ile Thr Leu Val Pro Val Lys
 325

<210> 10348

<211> 224

<212> PRT

<213> B.fragilis

<400> 10348

Thr Asn Gly Tyr Lys Leu Tyr Asn Glu Thr Phe Met Lys Ala Thr Lys
 1 5 10 15
 Ser Ile Leu Asn Ile Gln Ser Ile Leu Lys Asp Phe Ser Gly Leu Ala
 20 25 30
 Glu Ala Arg Lys Ser Tyr Thr Leu Arg Thr Arg Leu Val Phe Ile Phe
 35 40 45
 Cys Gly Ile Thr Ile Ala Met Val Leu Phe Phe Ala His Ser Val Val
 50 55 60

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<210> 10349
<211> 397
<212> PRT
<213> B.fragilis
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Thr	Ala	Phe	Asn	Asn	Ile	Asn	Ile	Glu	Val	Lys	Phe	Asn	Met	Lys	Pro
1				5					10					15	
Asn	Lys	Ile	Tyr	Ile	Thr	Thr	Leu	Leu	Leu	Leu	Phe	Phe	Leu	Ser	Gly
			20					25					30		
Arg	Ala	Gln	Lys	Ile	Glu	Glu	Leu	Thr	Ala	Val	Pro	Leu	Gln	Ile	Gly
		35					40					45			
Tyr	Glu	Lys	Thr	Leu	His	Leu	Ile	Phe	Pro	Thr	Glu	Val	Lys	Tyr	Tyr
	50					55					60				
Ser	Ile	Gly	Gly	Asp	Tyr	Val	Ile	Gly	Glu	Lys	Val	Val	Asn	Cys	Pro
65				70						75				80	
Gly	Ile	Ile	Arg	Leu	Lys	Ala	Ala	Glu	Glu	Asn	Phe	Pro	Gly	Glu	Thr
				85				90						95	
Thr	Leu	Ser	Val	Val	Thr	Ala	Asp	Thr	Lys	Phe	Tyr	Ser	Tyr	Ser	Ile
			100					105					110		
Ser	Tyr	Asn	Ala	His	Pro	Ala	Gln	Ser	Tyr	Val	Arg	Ile	Gly	Gly	Glu
		115					120					125			
Ala	Pro	Thr	Pro	His	Thr	Leu	Pro	Val	Gly	Lys	Glu	Lys	Gln	Leu	Phe
	130					135					140				
Leu	Ile	Phe	Pro	Ala	Gly	Ile	Thr	Tyr	Val	Asp	Tyr	Gly	Ser	Thr	Asn
145				150						155				160	
Val	Glu	Val	Asp	Lys	Ala	Glu	Gly	Val	Asp	Asn	Ile	Leu	Ala	Val	Lys
				165					170					175	
Ala	Val	Gln	Pro	Tyr	Lys	Glu	Asp	Thr	Asn	Ile	Ser	Val	Val	Leu	Glu
			180					185					190		
Gly	Gly	Lys	Phe	Tyr	Thr	Phe	Asp	Leu	Arg	Tyr	Val	Pro	Ala	Pro	Glu
		195					200					205			
Arg	Phe	Ser	Phe	Val	Ile	Asp	Lys	Glu	Asp	Thr	Gln	Arg	Val	Ala	Ile
	210					215					220				
Leu	Asp	Glu	Lys	Glu	Arg	Ser	Tyr	Gly	Gln	Lys	Glu	Arg	Ile	Arg	Glu
225				230						235				240	
Ala	Val	Ala	Lys	Arg	Ala	Pro	Leu	Asp	Leu	Gly	Leu	Arg	Asp	Lys	Asn
				245					250					255	

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<210> 10350
<211> 75
<212> PRT
<213> B.fragilis
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Thr	Thr	Thr	Lys	Asn	Lys	Asn	Tyr	Asn	Arg	Met	Glu	Thr	Ile	Trp	Glu
1				5					10					15	
Lys	Val	Asp	Tyr	Leu	Gly	Arg	Ile	Leu	Cys	Cys	Ile	Ile	Met	Gly	Ile
			20					25					30		
Ala	Tyr	Ile	Leu	Ile	Met	Ile	Ala	Pro	Leu	Tyr	Ala	Ser	Arg	His	Glu
		35					40					45			
Gln	Ser	Gly	Gln	Arg	Ser	Asp	Glu	Lys	Ala	Ser	Val	Asp	Gly	Glu	Glu
	50					55					60				
Lys	Val	Pro	Asp	Asn	Gly	Pro	Glu	Pro	Glu	Lys					
65					70					75					

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<210> 10351
<211> 810
<212> PRT
<213> B.fragilis
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Arg	Arg	Asn	Lys	Met	Lys	Glu	Glu	Glu	Ala	Tyr	Ser	Ile	Leu	Asp	Ile
1				5					10					15	
Ile	Ser	Glu	Ser	Asp	Gly	Gln	Ser	Val	Ile	Leu	Thr	Arg	Ser	Gly	Ser
			20					25					30		
Ile	Cys	Ile	Pro	Phe	Glu	Leu	Arg	Gln	Pro	Glu	Cys	Tyr	Ser	Leu	Ser
			35				40					45			
Pro	Glu	Asp	Ile	Asp	Glu	Arg	Asp	Gly	Met	Tyr	Arg	Glu	Ala	Phe	Arg
	50					55				60					
His	Met	Pro	Asp	Gly	Ala	Tyr	Val	His	Lys	Gln	Asp	Val	Phe	Leu	Lys
65				70					75					80	
Lys	Glu	Tyr	His	Pro	Gly	Lys	Gly	Thr	Gly	Ser	Phe	Leu	Asp	Arg	Ala
			85						90				95		
Asp	Ala	Arg	His	Phe	Glu	Gly	Arg	Leu	Tyr	Ile	Asp	His	Thr	Cys	Ile
			100					105					110		
Leu	His	Phe	Val	Leu	Ala	Gly	Leu	Lys	Ser	Leu	Glu	Lys	Ala	Tyr	Val
		115					120				125				
Ser	Ser	Pro	Leu	Ala	Tyr	Lys	Glu	His	Leu	His	Arg	Glu	Asp	Tyr	Arg

	130					135					140					
Lys 145	Leu	Glu	Ala	Phe	Leu 150	Glu	Gly	Val	Asp	Asn 155	Ala	Val	Ser	Ile	Leu 160	
Gln	Asn	Met	Arg	Gly 165	Asn	Ser	Val	Leu	Pro 170	Met	Ser	Cys	Glu	Gly	Ile 175	
Ser	Gly	Phe	Thr 180	Arg	Ala	Tyr	Ser	Gly 185	Leu	Phe	Gly	Asp	Thr 190	Asp	Ala	
Val	Val	Asp 195	Ile	His	Val	Asp	Gly 200	Ser	Leu	His	Val	Gly 205	Lys	Asn	His	
Ala	Arg	Cys	Tyr	Ala	Val	Cys 215	Asp	Glu	Thr	Phe	Leu	Pro	Glu	Gly	Asn	
Ile 225	Glu	Ser	Tyr	Val	Arg	Asp 230	Glu	Ser	Leu	Pro 235	Pro	Ala	Ala	Ser	Gln 240	
Leu	Tyr	His	Pro	Leu 245	Met	Glu	Gln	Leu	Gly 250	Met	Tyr	Leu	Pro	Tyr	Asn 255	
His	Ile	Val	Asn 260	Gln	Val	Ile	Tyr	Phe 265	Glu	Gly	Asn	Glu	Arg	Leu	Arg	
Ser	Arg	Ile 275	Ala	Arg	Asn	Ile	Asp 280	Ile	Tyr	Gly	Ser	Asn 285	Ser	Ser	Met	
Asn	Lys 290	Gly	Ile	Glu	Arg	Glu 295	Phe	Lys	Glu	Leu	Glu 300	Lys	Leu	Gln	Thr	
Glu 305	Ile	Leu	Glu	Glu	Asn 310	Gln	Met	Leu	Val	Arg 315	Ser	Phe	Phe	Ser	Val 320	
Cys	Val	Phe	Asp	Gly 325	Ser	Asp	Thr	Glu	Leu	Glu 330	Lys	Ala	Asp	Lys	Arg 335	
Ile	Arg	Glu	Ile 340	Leu	Asn	Leu	Asn	Arg 345	Phe	Lys	Tyr	Tyr	Ile	Pro	Gly	
Tyr	Gly	Asn 355	Leu	Ala	Arg	Met	His 360	Phe	Ala	Cys	Val	Pro	Gly	Gln	Ile	
Ser	Leu 370	Met	Pro	Val	Glu	Tyr 375	Leu	Phe	Leu	Thr	Thr 380	Leu	Pro	Ile	Ala	
Leu 385	Cys	Phe	Phe	Leu	Gln 390	Cys	Gly	Lys	Phe	Ser	Asn 395	Asp	Ala	Glu	Gly 400	
Ile	Tyr	Val	His	Asp 405	Arg	Met	Tyr	Gln	Val	Pro	Leu	Arg	Lys	Asp	Ile 415	
Trp	Asp	Ala	Ala 420	Lys	Lys	Arg	Val	Asn	Ala	Arg	Asn	Gly	Met	Val	Ile	
Ala	Gly	Thr	Gly 435	Gly	Gly	Lys	Ser	Ala	Phe	Thr	Leu	Asn	Phe	Thr	Gln	
Gln	Leu	Ile	Glu	Gln	Asp	Tyr 455	Thr	Thr	Ile	Val	Val	Glu	Phe	Gly	Asn	
Ser 465	Phe	Ser	Gln	Leu	Cys 470	Lys	Leu	Tyr	Pro	Asp	Ile	Ser	Leu	His	Val	
Asp	Tyr	Asp	Gly	Lys 485	Thr	Pro	Leu	Gly	Ile	Asn	Pro	Phe	Asp	Leu	Gln	
Gly	Gly	Glu	Pro 500	Asp	Asn	Asn	Asp	Leu	Glu	Thr	Leu	Ser	Gly	Ile	Val	
Gln	Arg	Tyr	Trp 515	Lys	His	Met	Phe	Thr	Lys	Asp	Glu	Ser	Glu	Lys	Glu	
Val	Ala	Leu	Thr	Arg	Phe	Ile 535	Gln	Asp	Tyr	Tyr	Glu	His	Val	Arg	Gln	
Gly 545	His	Asn	Phe	Glu	Ser 550	Phe	Tyr	Asn	Tyr	Val	Ile	Asp	Asn	Tyr	Asp	
Glu	Ile	Leu	Glu	Arg	Lys 565	His	Ile	Pro	Gly	Thr	Tyr	Phe	Thr	Ile	Glu	
Ser	Phe	Lys	Leu	Asn	Cys 580	Gly	Glu	Phe	Met	Pro	Gly	Gln	Arg	Tyr	Glu	
Asn	Val	Cys	Lys	Asp	Met	Lys	Ile	Asp	Phe	Ser	Gly	Lys	Lys	Phe	Ile	

Val Phe Glu Leu Thr Arg Ile Lys Gln Asp Arg Phe Leu Ser Asn Leu
 610 615 620
 Val Met Ser Met Ile Phe Thr Val Ile Gln Lys Lys Leu Leu Ser Asp
 625 630 635 640
 Arg Arg Lys Arg Gly Ile Leu Ile Phe Asp Glu Tyr Ala Glu Thr Ala
 645 650 655
 Gln Met Val Asp Thr Ala Thr Gly Ser Gly Ile His Ser Ser Val Ala
 660 665 670
 Phe Cys Tyr Gln Lys Ile Arg Lys Glu Asn Gly Ala Val Tyr Thr Ile
 675 680 685
 Val Gln Thr Pro Asp Gln Leu Pro Asp Asp Glu Asn Thr Lys Asn Ile
 690 695 700
 Ile Ser Asn Thr Asp Met Leu Phe Val Leu Pro Thr Lys Glu Val Ile
 705 710 715 720
 Tyr Arg Thr Ile Ile Asp Lys Phe Lys Leu Thr Gln Pro Gly Gln Ile
 725 730 735
 Ala Leu Met Lys Ser Met Arg Asn Asn Phe Ala Gly Ser Arg Pro Tyr
 740 745 750
 Ser Glu Cys Phe Met Arg Met Gly Glu Asn Tyr Ala Thr Val Thr Arg
 755 760 765
 Leu Glu Phe Ser Arg Glu Lys Phe Leu Ala Phe Gln Thr Glu Gly Glu
 770 775 780
 Ile Leu Ser Asp Leu Glu Asp Lys Thr Gly Ser Gly Lys Ser Met Gln
 785 790 795 800
 Glu Ala Ile Glu Glu Tyr Ile Asn Glu His
 805 810

<210> 10352

<211> 193

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (161)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10352

Ser Arg Gln Asn Ile Lys Glu Asp Ser Pro Met Lys Leu Leu Leu Pro
 1 5 10 15
 Leu Leu Leu Phe Cys Leu Pro Phe Asn Gly Ser Asn Gly Gly Lys Glu
 20 25 30
 Leu Leu Asp Lys Ala Leu Asp Arg Cys Glu Arg Leu Glu Thr Leu Glu
 35 40 45
 Asn Tyr Arg Asp Ile Leu Ser Arg Tyr Gly Val Ser Asp Lys Ile Pro
 50 55 60
 Leu Ala Cys Pro Leu Lys Asp Arg Phe Arg Lys Ser Ser Gly Phe Gly
 65 70 75 80
 Ile Arg Ile His Pro Ile Thr Gly Lys Arg Ser Phe His Ser Gly Ile
 85 90 95
 Asp Met Ala Val Gly Leu Ala Ala Pro Val Tyr Ala Thr Ala Ser Gly
 100 105 110
 Thr Val Ser Phe Ala Gly Arg Lys Gly Gly Tyr Gly Arg Cys Val Ile
 115 120 125
 Ile Arg His Ser Tyr Gly Phe Glu Thr Leu Tyr Ala His Leu Ala Ala
 130 135 140
 Tyr Tyr Thr Thr Glu Gly Gln Lys Val Asp Lys Gly Ala Val Ile Ala
 145 150 155 160
 Xaa Ala Gly Ser Thr Gly Lys Ser Thr Gly Tyr His Leu His Tyr Glu

10352
 193
 PRT
 B.fragilis
 UNSURE
 (161)
 Identity of amino acid sequences at the above locations are unknown.
 10352

Ile Arg Lys Asn Gly Lys Pro Ile Lys Pro Tyr Trp Tyr Gly Tyr Asp
 165 170 175
 180 185 190

Asp

<210> 10353
 <211> 204
 <212> PRT
 <213> B.fragilis

<400> 10353

Gln Lys Met Lys Ile Lys Val Tyr Lys His Ile Ala Met Phe Leu Leu
 1 5 10 15
 Pro Ala Ala Leu Thr Gly Cys Ser Gly Lys Glu Asp Ser Leu Pro Gly
 20 25 30
 Thr Gly Glu Ala Gly Leu Glu Ile Glu Asn Cys Phe Ser Arg Ser Thr
 35 40 45
 Gly Thr Asp Thr Gly His Val Pro Val Lys Asp Phe Gly Met Val Leu
 50 55 60
 Leu Asp Glu Thr Gly Gly Ser Tyr Thr Gly Val Ser Asn Pro Leu His
 65 70 75 80
 Val Thr Tyr Gly Glu Ser Trp Asn Phe Pro Gln Val Thr Leu Thr Gln
 85 90 95
 Lys Thr Cys Arg Leu Phe Ala Phe Ser Pro Phe Arg Ser Ile Pro Gly
 100 105 110
 Lys Glu Val Ala Val Ser Leu Ser Pro Gln Thr Asp Tyr Leu Ala Ser
 115 120 125
 Asp Glu Val Arg Leu Asp Trp Gln Asn Pro Gln Ala Ser Ile Glu Met
 130 135 140
 Lys His Leu Leu Ser Leu Leu Gly Ile Tyr Arg Arg Arg Glu Pro Gly
 145 150 155 160
 Met Gln Pro Glu Cys Gly Ser Arg Thr Asp Arg Gly His Ile Arg Leu
 165 170 175
 Tyr Arg Arg Tyr Ile Val Arg Lys Arg Gly Lys Arg His Arg Phe Phe
 180 185 190
 Gln Gly Glu His Ala Ala Ala Pro Ala Arg Gln Ala
 195 200

<210> 10354
 <211> 73
 <212> PRT
 <213> B.fragilis

<400> 10354

Ala Ser Arg Phe Ile Glu Gln His His Ala Glu Val Leu Tyr Arg Asn
 1 5 10 15
 Met Ala Arg Ile Arg Thr Gly Thr Ala Ala Glu Thr Val Phe Tyr Leu
 20 25 30
 Lys Ser Arg Leu Ser Cys Pro Gly Glu Gly Ile Phe Leu Ala Gly Thr
 35 40 45
 Ala Arg Lys Gly Arg Arg Gln Lys Lys His Gly Tyr Val Phe Ile His
 50 55 60
 Phe Tyr Phe His Phe Leu Leu Phe Val
 65 70

<210> 10355
 <211> 140
 <212> PRT

<213> B.fragilis

<400> 10355

Leu	Arg	Val	Asp	Pro	Glu	Gln	Gly	Arg	Gly	Ala	His	Thr	Leu	Arg	Cys
1				5					10					15	
Glu	Cys	Pro	Ser	Leu	Gly	Asn	Gly	Arg	Arg	Leu	Tyr	Arg	Asn	His	Thr
		20						25					30		
Thr	Leu	Lys	Thr	Thr	Ile	Met	Lys	Arg	Lys	Phe	Leu	Leu	Ser	Ala	Phe
		35					40						45		
Leu	Phe	Ala	Ser	Thr	Leu	Arg	Gly	Tyr	Ala	Gln	Asp	Ala	Arg	Gly	Ala
	50					55					60				
Met	Asn	Gln	Ile	Leu	Asp	Gly	Tyr	Thr	Leu	Pro	Ile	Phe	Ala	Ala	Cys
65					70					75					80
Met	Leu	Val	Gly	Leu	Ala	Leu	Gly	Val	Val	Gln	Gln	Leu	Asp	Asn	Ile
				85					90					95	
Ile	Asp	Lys	Glu	Asn	Arg	Gly	Thr	Arg	Arg	Asp	Gly	Leu	Phe	Ala	Leu
			100					105					110		
Gly	Trp	Tyr	Val	Gly	Phe	Ser	Leu	Leu	Ala	Gly	Val	Val	Ile	Thr	Ala
		115					120						125		
Ala	Lys	Ala	Ala	Ile	Ser	Gly	Ile	Lys	Leu	Thr	Ile				
	130						135				140				

<210> 10356

<211> 62

<212> PRT

<213> B.fragilis

<400> 10356

Asn	Arg	Cys	Asp	Met	Glu	Thr	Ile	Gln	Glu	Ile	Ile	Asp	Met	Ile	Lys
1				5					10					15	
Glu	Leu	Ser	Gly	Arg	Asp	Ile	Leu	Phe	Leu	Ser	Phe	Tyr	Cys	Gly	Phe
			20					25					30		
Ile	Leu	Ile	Leu	Ser	Ile	His	Arg	Ser	Asp	Glu	Lys	Ala	Ser	Val	Asp
		35					40					45			
Glu	Glu	Glu	Lys	Val	Pro	Asp	Asn	Gly	Pro	Glu	Pro	Glu	Lys		
	50					55					60				

<210> 10357

<211> 434

<212> PRT

<213> B.fragilis

<400> 10357

Lys	Arg	Cys	Asp	Met	Glu	Thr	Ile	Gln	Glu	Ile	Ile	Asp	Thr	Ile	Lys
1				5					10					15	
Gln	Trp	Pro	Ser	Thr	Ile	Trp	Trp	Val	Met	Gly	Ala	Leu	Phe	Ile	Ile
			20					25					30		
Ser	Trp	Phe	Trp	Asp	Thr	Pro	Leu	Arg	Lys	Lys	Arg	Asn	Lys	Asp	Lys
		35					40					45			
Val	Thr	Asp	Asp	Lys	Asn	Asn	Asn	Leu	Lys	Ser	Ser	Asn	Met	Thr	Asp
	50					55					60				
Lys	Lys	Glu	Leu	Arg	Gly	Asn	Leu	Met	Lys	Glu	Gly	Val	Ile	Leu	Trp
65					70					75				80	
Thr	Val	Phe	Thr	Gly	Glu	Gly	Lys	Ala	Ala	Leu	Arg	Met	Asp	Asn	Glu
				85					90					95	
Ile	His	Ala	Glu	Asn	Gly	Lys	Ile	Gly	His	Gly	Arg	Leu	Leu	Ser	Pro
			100					105					110		
Asp	Val	Pro	Val	Leu	His	Glu	Ile	Leu	Thr	Pro	Asp	Asn	Ala	Tyr	Ser
		115						120					125		

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 10399
 10400

Phe Leu Ser Leu Ser Glu Ile Gly Val Trp Ile Arg Ile Arg Met Arg
 130 135 140
 Leu Arg Tyr Pro Gly Ile Glu Asp Ser Ala Val Lys Gln Ser Glu Tyr
 145 150 155 160
 Glu Pro Glu Met Cys Phe Pro Ala Trp Ile Ala Gly Glu Lys Thr Gly
 165 170 175
 Arg Ile Ser Leu Phe Leu Gln Glu Pro Ser Thr Gly Ile Cys Ala Ile
 180 185 190
 Pro Asp Met Val Gly Ile Pro Gly Leu Pro Asp Leu Gln Pro Asp Ser
 195 200 205
 Val Pro Val Lys Val Glu Met Leu Ile Arg Lys Ala Ser Pro Leu Leu
 210 215 220
 Glu His Pro Glu Tyr Ser Glu Asp Ile Lys Lys Arg Ala Asp Arg Lys
 225 230 235 240
 Ser Asn Leu Met Lys Glu Gly Val Leu Val Trp Ile Met Phe Thr Ala
 245 250 255
 Gly Glu Lys Ala Val Leu Tyr Ala Asn Asp Arg Ile His Phe Thr Glu
 260 265 270
 Asp Gly Lys Tyr Val Pro Gly Lys Leu Leu Ser Ser Asp Ile Ser Pro
 275 280 285
 Phe His Gln Ile Tyr Asp Trp Asp Val Gln Tyr Pro Trp Ile Arg Ser
 290 295 300
 Lys Pro Glu Ile Ser Val Arg Tyr Arg Ile Arg Leu Arg Tyr Pro Gly
 305 310 315 320
 Ala Asn Asp Ala Gly Ile Glu Gln Ser Glu Tyr Glu Pro Glu Ala Cys
 325 330 335
 Phe Pro Ala Trp Ile Val Pro Gln Glu Gly Gly Gln Thr Gly Leu Cys
 340 345 350
 Leu Glu Glu Pro Ser Thr Gly Gln Tyr Phe Ile Pro Asp Met Thr Gly
 355 360 365
 Leu Pro Gly Leu Pro Glu Leu Gln Pro Asp Gly Ile Pro Leu Arg Val
 370 375 380
 Glu Leu Leu Ile Arg Gln Ala His Trp Ile Ser Asp Val Ala Asp Pro
 385 390 395 400
 Ala Tyr Leu Lys Ile Ile Ser Tyr Ser Ala Ser Leu Lys Ala Phe Ser
 405 410 415
 Thr Lys Ile Ser Asp Asn Gln Glu Val Lys Ser Cys Asn Ile Gln Thr
 420 425 430
 Glu Ile

<210> 10358

<211> 154

<212> PRT

<213> B.fragilis

<400> 10358

Ala Leu Leu Asp Val Pro Glu Pro Pro Val Lys Thr Val Gln Arg Leu
 1 5 10 15
 Asn Ile Gln Ile Asn Val Ser Gly Asn Thr Ala Pro Leu Ala Gly Leu
 20 25 30
 Lys Gly Thr Leu Thr Gly Ile Ser Thr Gly Arg Tyr Leu Val Ser Arg
 35 40 45
 Glu Arg Thr Gly Asn Ala Ser Val Thr Ser Leu Phe Ala Arg Lys Pro
 50 55 60
 Glu Thr Asp Arg Trp Lys Thr Ser Leu Tyr Ala Phe Gly Phe Asn Pro
 65 70 75 80
 Ala Ala Glu Asn Ile Leu Ser Val Lys Ile Glu Met Asp Gly Lys Asp
 85 90 95

Ser Val Phe Asn Glu Glu Gln Lys Val Asp Leu Thr Pro Tyr Leu Arg
 100 105 110
 Gly Phe Asp Ser Asp Glu Leu Ser Leu Glu Leu Asp Leu His Ile Gly
 115 120 125
 Lys Glu Leu Thr Ile Gly Glu Pro Val Val Ile Pro Asp Trp Glu Asp
 130 135 140
 Ile Pro Glu Thr Glu Leu Pro Asn Tyr Asn
 145 150

<210> 10359
 <211> 283
 <212> PRT
 <213> B.fragilis

<400> 10359
 Gly Gly Lys Glu Asn Ser Gln Asp Leu Pro Gly Asn Lys Pro Val Arg
 1 5 10 15
 Thr Ala Gln Lys Gly Ile Glu Val Arg Gly Met Glu Glu Ala Tyr Gly
 20 25 30
 Asn Leu Asn Ala Ala Tyr Leu Gln Ile Lys Gly Met Val Val Ile Glu
 35 40 45
 Gly Phe Tyr Ala Leu Ile Ala Gly Phe Val Ile Thr Thr Phe Val Phe
 50 55 60
 Lys Leu Val Gly Ile Ile Lys Glu Met Thr Asn Glu Gly Lys Gly Phe
 65 70 75 80
 Asn Ala Arg His Phe Tyr Glu Leu Gly Arg Glu Tyr Ile Phe Cys Ile
 85 90 95
 Gly Leu Ile Cys Ile Met Pro Val Leu Leu Gly Ala Leu Glu Thr Val
 100 105 110
 Leu Ala Tyr Gly Ala Asp Glu Leu Met Lys Ser Leu Ala Ser Gly Gly
 115 120 125
 Val Tyr Asn Pro His Asn Ile Trp Lys Asp Pro Ile Ser Ala Met Leu
 130 135 140
 Asp Glu Leu Met Asn Gly Asp Ile Thr Asp Ile Ala Val Asn Gly Ile
 145 150 155 160
 Asp Thr Leu Lys Trp Ser Leu Ile Ser Gly Thr Val Gly Ser Leu Phe
 165 170 175
 Gly Val Ala Tyr Asp Tyr Ile Met Leu Leu Phe Leu Cys Thr Arg Tyr
 180 185 190
 Leu Ile Leu Leu Leu Glu Ile Ile Ser Pro Ile Ala Ile Ala Cys
 195 200 205
 Leu Tyr Asn Lys Asp Thr Arg Ser Ser Phe Tyr Thr Trp Val Lys Gln
 210 215 220
 Met Leu Gly Cys Tyr Met Leu Tyr Pro Gly Phe Ile Leu Ala Ser Val
 225 230 235 240
 Phe Ser Asp Leu Ile Val Thr Asn Tyr Val Leu Gln Arg Ser Trp Ser
 245 250 255
 Val Leu Leu Met Val Ile Phe Ser Phe Leu Leu Lys Leu Thr Met Leu
 260 265 270
 Gly Thr Val Lys Ala Thr Val Asn Lys Trp Leu
 275 280

<210> 10360
 <211> 548
 <212> PRT
 <213> B.fragilis

<400> 10360
 Pro Ala Gly Glu Pro Ser Gly Ser Pro Ile Lys Lys Arg Ile Met Val

1	5	10	15
Arg Ala Ile Thr Thr Ile Val Cys Ser Leu Leu Leu Leu Leu Ala Phe			
20		25	30
Ser Cys Ser Arg Glu Asp Thr Gly Pro Gln Glu Thr Ile Pro Gly Ser			
35		40	45
Gly Ile Val Thr Phe Thr Ala Met Thr Gly Gln Gly Glu Thr Arg Ser			
50		55	60
Ser Gln Glu Gly Ser Phe Glu Thr Gly Asp Ala Ile Gly Val Phe Ala			
65		70	80
Ile Glu Pro Lys Thr Gly Val Tyr Trp Ala Val Asn Asn Lys Tyr Thr			
85		90	95
Tyr Asp Gly Gln Lys Phe Lys Pro Glu Ala Glu Ala Asp Asn Ile Ile			
100		105	110
Val Thr Val Gly Thr Asp Phe Asp Phe Tyr Val Tyr Tyr Pro Phe Lys			
115		120	125
Ala Gly Gln Thr Asp Ile Thr Gly Ile Ser His Thr Ala Gly Asn Gln			
130		135	140
Ser Asp Lys Ser Gly Trp Leu Ser Ala Asp Phe Met Thr Ala Thr Tyr			
145		150	160
Thr Asp Pro Ile Arg Asn Tyr Thr Val Pro Leu His Phe Lys His Arg			
165		170	175
Met Ser Thr Val Glu Val Arg Ile Asp Arg Asn Asp Gly Val Arg Glu			
180		185	190
Ala Thr Met Glu Asn Val Lys Arg Thr Ser Arg Phe Asn Leu Leu Thr			
195		200	205
Gly Gly Ile Thr Thr Asp Glu Ser Arg Gly Ser Cys Thr Met His Lys			
210		215	220
Tyr Ser Glu Thr Gly Gly Thr Thr Val Phe Arg Val Thr Ile Pro Ala			
225		230	240
Gln Arg Leu Thr Thr Ser Ser Asn Tyr Val Ala Leu Thr Gly Thr Thr			
245		250	255
Pro Ile Lys Leu Arg Gly Thr Ser Asp Met Val Thr Glu Glu Gly Lys			
260		265	270
Ile His Asn Tyr Arg Met Asp Tyr Lys Lys Gln Val Thr Ile Leu Asp			
275		280	285
Tyr Ala Pro Gly Gly Thr Thr Thr Gly Ala Gly Leu Tyr Asn Thr Gly			
290		295	300
Ser Asn Cys Thr Val Ser Ala Ser Val Lys Pro Gly Tyr Glu Phe Ala			
305		310	320
Gly Trp Tyr Glu Gly Arg Ile Val Ser Gly Thr Ala Gln Tyr Ser			
325		330	335
Phe Glu Val Leu Ala Asp Arg Thr Leu Glu Pro Lys Tyr Arg Asn Tyr			
340		345	350
Gly Ser Trp Arg Val Thr Leu Thr Ala Asn Pro Ser Ala Ile Ser Trp			
355		360	365
Lys Gly Gly Thr Ser Thr Leu Ser Ala Gly Ala Ser Arg Glu Val Phe			
370		375	380
Val Asn Gly Val Lys Glu Thr Leu Gln Gly Gly Ser Pro Ser Ile Ser			
385		390	400
Gly Gly Thr Glu Gly Phe Phe Leu Ser Gly Asn Thr Val Ser Val Ser			
405		410	415
Glu Asn Asn Thr Ala Ser Ala Arg Ser Cys Val Phe Thr Ala Ser His			
420		425	430
Gly Gly Ser Ser Ala Thr Ala Thr Ile Ser Gln Glu Ala Pro Pro Val			
435		440	445
Ser Tyr Val Phe Glu Tyr Ser Asp Gly Thr Val Ala His Ser Glu Arg			
450		455	460
Ala Glu Ala Gly Ala Gly Ser Phe Leu Leu Ser Ile Thr Ser Arg Lys			
465		470	480

Thr Ile Gly Asn Ser Ile Lys Glu Leu Ser Trp Ser Ala Ser Gly Asp
 485 490 495
 Ser Trp Ile His Val Ser Gly Ser Ser Val Ser Tyr Asp Glu Asn Pro
 500 505 510
 Thr Lys Glu Ile Arg Ser Gly Ser Val Thr Leu Thr Gln Ala Glu Ser
 515 520 525
 Gly Lys Thr Leu Thr Leu Thr Val Arg Gln Lys Gly Lys Thr Ser Ile
 530 535 540
 Asp Ile Asn Pro
 545

<210> 10361

<211> 148

<212> PRT

<213> B.fragilis

<400> 10361

Gly Tyr Ile Arg Leu Leu Gln Ala Phe Gln Pro Cys Lys Tyr Lys Val
 1 5 10 15
 Gln Asp Thr Gly Val Val Asp Val Gln Ala Ser Phe Lys Val Ala Arg
 20 25 30
 Val Gly Thr Val Gln Glu Arg Ala Gly Ala Phe Ala Arg Val Val Leu
 35 40 45
 Phe Phe Lys Glu Tyr Ile Leu Phe Val Tyr Val Gly Thr Val Gly His
 50 55 60
 Val Pro Glu Gly Phe Pro Val His Pro Val Pro Phe Val Asp Val Phe
 65 70 75 80
 Arg Gly Lys Gly Ile Ala Leu Arg Leu Pro Glu Leu Glu Arg Asp Thr
 85 90 95
 Tyr Ala Ala Ala Pro Gly Gln Asp His Ala Leu Ser Ile Gly Leu Ala
 100 105 110
 Asp Asn Val Lys Tyr Ala Val Cys Leu Phe Leu Phe His Leu Val Ser
 115 120 125
 Ser Ser Glu Val Val Cys Leu Trp Leu Ser Tyr Ser Arg Ser Cys Arg
 130 135 140
 Thr Ser Ile Pro
 145

<210> 10362

<211> 204

<212> PRT

<213> B.fragilis

<400> 10362

Pro Thr Ile Arg Ala Leu Met Thr Arg Asp Gly Lys Ser Arg Ile Ala
 1 5 10 15
 Ile Leu Ala Gly Leu Gly Ile Val Val Val Leu Leu Val Trp Ala Phe
 20 25 30
 Ile Ala Ser Leu Pro Ala Ser Gly Ser Lys Glu Pro Glu Thr Gly Glu
 35 40 45
 Val Ile Leu Arg Thr Arg Ile Lys Asp Ser Phe Thr Leu Asp Asp Met
 50 55 60
 Leu Gln Lys Val Gly Lys Glu Asn Thr Ser Lys Ser Ala Ser Leu Ser
 65 70 75 80
 Gly Phe Asp Pro Val Thr Glu Glu Pro Ala Asp Thr Ala Gly Asn Glu
 85 90 95
 Arg Glu Ile Arg Arg Ile Gln Glu Leu Ile Arg Asp Asn Glu Arg Glu
 100 105 110
 Leu Gly Ala Gly Ile Thr Val Pro Val Gln Gln Pro Val Ala Ser Arg

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115 120 125
 Gly Lys Glu Lys Pro Ala Leu Gln Glu Lys Lys Glu Glu Glu Val Arg
 130 135 140
 Pro Gly Gln Arg Lys Ala Met Asp Ser Val Pro Arg Ala Pro Thr Arg
 145 150 155 160
 Arg Gly Phe Asn Thr Val Arg Leu Val Arg Gln Glu Glu Arg Asn Val
 165 170 175
 Ile Lys Ala Phe Val His Ser Thr Gln Thr Gly Met Val Gly Phe His
 180 185 190
 Pro Gln Asp Ala Ala Gly Arg Glu Leu Pro Asp Arg
 195 200

<210> 10363
 <211> 177
 <212> PRT
 <213> B.fragilis

<400> 10363
 Asn Lys Lys Arg Met Lys Lys Leu Cys Leu Ser Leu Ile Val Met Met
 1 5 10 15
 Thr Ala Asp Thr Val Ser Ala Gln Trp Ala Val Thr Asp Ala Gly Asn
 20 25 30
 Leu Ser Gln Asn Leu Lys Asn Leu Lys Glu Leu His Arg Gln Val Gly
 35 40 45
 Tyr Leu Lys Glu Gln Lys Ser Leu Leu Asp Glu Ser Leu Asp Met Met
 50 55 60
 Arg Lys Val Asn Ser Val Val Ser Asp Cys Glu Thr Thr Arg Tyr Ile
 65 70 75 80
 Ile Glu Arg Gln Ala Arg Leu Ser Glu Lys Cys Val Asp Leu Leu Ser
 85 90 95
 Gly Lys Gln Leu Asn Pro Ser Thr Leu Gln Thr Leu Ile Gly Ser Ile
 100 105 110
 Glu Gln Ile Met Ala Gly Asn Arg Arg Leu Ile Gln Leu Ser Arg Thr
 115 120 125
 Ile Leu Ser Thr Ser Val Arg Met Asn Asp Ala Glu Arg Leu Ser Thr
 130 135 140
 Leu Gln Asn Ile Glu Arg Gln Thr Leu Glu Glu Glu Arg Lys Ile Ala
 145 150 155 160
 Arg Ile Ser Gln Val Ile Ser Gln Tyr Glu Gln Leu Lys Arg Ala Leu
 165 170 175
 Arg

<210> 10364
 <211> 151
 <212> PRT
 <213> B.fragilis

<400> 10364
 Ala Phe Thr Ile Ile Asn Ile Met Pro Thr Asn Tyr Asn Gln Leu Leu
 1 5 10 15
 Lys Asp Leu Glu Ile Gly Ser Val Tyr Ile Lys Ile Phe Ile Cys Phe
 20 25 30
 Leu Gly Cys Thr Phe Met Leu Tyr Pro Val Leu Phe Tyr Phe Thr His
 35 40 45
 Phe Phe Arg Glu Leu Ser Val Tyr Glu Gln Ile Phe Phe Ala Leu Gly
 50 55 60
 Ser Ser Ala Leu Tyr Thr Gly Leu Gly Val Pro Leu Ser Ile Thr Ser
 65 70 75 80

Ala Ile Arg Tyr Pro Gly Val Phe Tyr Leu Pro Leu Met Leu Leu Ser
 85 90 95
 Val Ser Val Ile Ala Thr Ile Tyr Ile Val Phe Phe Met Ala Arg Ser
 100 105 110
 Tyr Asp Pro Leu Thr Thr Leu Leu Trp Ile Leu Pro Thr Ser Tyr Leu
 115 120 125
 Leu Asn Leu Ile Thr Gly Val Ile Ser Ile Leu Arg Glu Lys Lys Tyr
 130 135 140
 Pro Lys Thr Glu Met Tyr Tyr
 145 150

<210> 10365

<211> 217

<212> PRT

<213> B.fragilis

<400> 10365

Glu Leu Val Leu Leu Val Ile Gly Thr Glu Glu Glu Thr Gly Arg Ile
 1 5 10 15
 Phe Arg Lys Ala Arg Gly Gly Met Asp Gly Gly Thr Leu Thr Gln Asp
 20 25 30
 Pro His Phe Pro Gly Leu Ile Ala Val Asp Asp Ala Gln Asp Gly Gly
 35 40 45
 Glu Pro Asp Met Val Leu Leu Thr Val Gly Ala Tyr Val Asp Asp Leu
 50 55 60
 Phe Lys Leu Arg Leu Val Asp Asn Ser Glu Phe Gln Arg Ile Ala Ile
 65 70 75 80
 Gly Thr Val Arg Leu Val Phe Gly Lys Tyr Gly Ile Cys Val Arg Leu
 85 90 95
 Ile Asp Gln Glu Gln Gly Thr Gly Thr Val Phe Leu Lys Gly Lys Pro
 100 105 110
 Val Glu Ala Val Gln Glu Ile Gly Arg Pro Ala Ala Val Ala Phe Gln
 115 120 125
 Glu Ala Phe Val Gln Gln Val Leu Leu His Gly Leu Glu Met Asp Glu
 130 135 140
 Phe Pro Ala Phe Val Asp His Gln Tyr Leu Val His Arg Ile Val His
 145 150 155 160
 His Ala Val Arg Glu Glu Gln Asp His Arg Asp Gly Tyr Pro Ala Glu
 165 170 175
 Asn Glu Tyr Gln Pro Gly Ala Gln Arg Ile Ala Leu Pro Gly Phe Gly
 180 185 190
 Gln Ala Gly Glu Ile Leu Glu Tyr Ala Leu Tyr Ile Glu Tyr Ala Phe
 195 200 205
 Gly Cys Phe His Glu Ser Phe Ile Ile
 210 215

<210> 10366

<211> 204

<212> PRT

<213> B.fragilis

<400> 10366

Asn Phe His Lys Arg Arg Pro Asn Gln Ser Asn Phe Phe Lys Lys Glu
 1 5 10 15
 Arg Asp Pro Arg Ile Leu Tyr Leu Gln Val Arg Gln Gln Gly Gln Pro
 20 25 30
 Gln Ala Lys Glu Arg Phe Arg Asp Leu Phe Val Ile Gly Cys Leu Thr
 35 40 45
 Ala Leu Arg Tyr Ser Asp Tyr Ser Thr Leu Thr Gln Asp Asn Leu Gln

50		55		60
Gly Cys Phe Ile Val Lys Arg Thr Arg Lys Thr Asn Val Asp Val Lys				
65		70		75
Val Pro Ala His Asp Tyr Val Lys Glu Ile Phe Glu Lys Tyr Asp Gly				80
	85		90	95
Asp Ile Pro Thr Gly Leu Cys Ile Gln His Phe Asn Lys Tyr Leu Lys				
	100		105	110
Val Ile Met Arg Glu Ile Gly Leu Thr Asp Lys Val Ser Tyr Ser Phe				
	115		120	125
Thr Gln Gly Gly Lys Leu His Thr Val Thr Lys Glu Lys Trp Glu Leu				
	130		135	140
Ile Ser Ser His Thr Ala Arg Arg Ser Ala Ala Thr Asn Met Tyr Leu				
145		150		155
Thr Gly Arg Met Lys Thr Leu Glu Ile Met Lys Leu Thr Arg His Arg				
	165		170	175
Ser Glu His Asn Phe Phe Arg Tyr Ile Arg Leu Thr Gly Asp Asp Thr				
	180		185	190
Ala Arg Ser Ile Ser Gly Asp Met Phe Phe Arg Lys				
	195		200	

<210> 10367
 <211> 71
 <212> PRT
 <213> B.fragilis

<400> 10367

Arg Ile Leu Lys Ile Ile Thr Met Lys Lys Phe Ile Glu Val Ser Thr		
1	5	10
Glu Asn Gly Lys Phe Leu Val Asn Val Asn Thr Ile Ser Cys Leu Tyr		
	20	25
Thr Ile Lys Asp Gly Arg Thr Arg Ile Thr Leu Thr Ala Pro Ser Ser		
	35	40
Lys Gly Asp Ile Phe Ile Asn Ala Gln Glu Ser Tyr Glu Glu Val Lys		
	50	55
Ala Leu Ile Lys Ala Ala Leu		60
65		70

<210> 10368
 <211> 79
 <212> PRT
 <213> B.fragilis

<400> 10368

Asp Met Asn Ile Asp Thr Glu Phe Asn Val Gly Asp Ser Val Cys Tyr		
1	5	10
Leu Ser Gly Asp Asn Ile Cys His Ser Thr Ile Ser Lys Ile Thr Ile		
	20	25
Glu Ile Ser Tyr Thr Asp Arg Ser Phe Ser Met Val Tyr Lys Leu Ser		
	35	40
Asp Gly Leu Ser Val Pro Arg Asn Asn Tyr Pro Gln Trp Asp Lys Lys		
	50	55
Leu Phe Arg Asp Lys Asp Asp Leu Ile Arg Tyr Leu Ser Glu Ser		
65		75

<210> 10369
 <211> 150
 <212> PRT
 <213> B.fragilis

<400> 10369

Leu	Lys	Arg	Ile	Leu	Glu	Lys	Ser	Met	Lys	Ser	Thr	Glu	Ile	Leu	Lys
1				5					10					15	
Arg	Ile	Gln	Ile	Gln	His	Leu	Leu	Thr	Ser	Ser	Ala	Val	Asp	Ser	Leu
		20						25					30		
Ala	Arg	Thr	Ser	Ala	Leu	Leu	Glu	Lys	Val	Ser	Glu	Leu	Ser	Val	Lys
		35						40					45		
Glu	Ala	Ala	Tyr	Gly	Leu	Lys	Cys	Ile	Glu	Leu	Tyr	Gly	Lys	Leu	Asp
	50					55					60				
Leu	Asn	Thr	Ser	Ser	Leu	Lys	Thr	Ala	Gln	Cys	Ser	Leu	Phe	Gly	Asp
65					70					75					80
Leu	Asn	Glu	Ser	Tyr	Ala	Thr	Phe	Pro	Lys	Ser	Gly	Met	Met	Gln	Asn
				85					90					95	
Gly	Asn	Val	Tyr	Gln	Ala	Pro	Thr	Leu	Val	Tyr	Asn	Arg	Val	Gly	Asn
		100						105						110	
Gly	Tyr	Ile	Val	Leu	Pro	Thr	Pro	Val	Lys	Ser	Thr	Ala	Asn	Gly	Ala
		115					120							125	
Cys	Lys	Asn	Arg	Tyr	Phe	Gly	Ser	Pro	Thr	Ser	Ser	Pro	Arg	Gly	Trp
	130					135						140			
Lys	Asp	Ser	Ala	Cys	Val										
145					150										

<210> 10370

<211> 72

<212> PRT

<213> B.fragilis

<400> 10370

Tyr	Arg	Gln	Ile	His	Lys	Arg	Arg	Tyr	Val	Phe	Gln	Lys	Ile	Asn	Leu
1				5					10					15	
Leu	Asn	Phe	Lys	Ile	Thr	Ile	Met	Ile	Lys	Lys	Ile	Ile	Arg	Tyr	Leu
		20						25					30		
Arg	Lys	Arg	Lys	Asp	Met	Lys	Leu	Arg	Lys	Trp	Cys	Ile	Thr	Leu	Ala
		35					40					45			
Ala	Asn	Glu	Leu	Ser	Arg	Gly	Glu	Ala	Ile	Asp	Ala	Ala	Asn	Glu	Ile
	50					55					60				
Tyr	Lys	Trp	Val	Lys	Glu	Gln	Pro								
65					70										

<210> 10371

<211> 205

<212> PRT

<213> B.fragilis

<400> 10371

Ser	Tyr	Lys	Ile	Phe	Ile	Arg	Ile	Ile	Thr	Asn	Leu	Glu	Met	Lys	Gln
1				5					10					15	
Ser	Glu	Leu	Thr	His	Gly	Ser	Leu	Phe	Ser	Gly	Ile	Glu	Gly	Phe	Gly
		20						25					30		
Leu	Gly	Ala	Ala	Phe	Ser	Gly	Ile	Arg	Thr	Leu	Trp	Ser	Cys	Glu	Tyr
		35					40					45			
Glu	Asp	Tyr	Gln	Thr	Ser	Ile	Ile	Lys	Lys	Asn	Phe	Gly	Glu	Glu	His
	50					55					60				
Glu	Ile	Asn	Arg	Asp	Ile	Lys	Thr	Tyr	Ser	Asn	Pro	Thr	Phe	Val	Asp
65					70					75					80
Ile	Ile	Ser	Gly	Gly	Phe	Pro	Cys	Gln	Asp	Ile	Ser	Val	Ala	Gly	Lys
				85					90					95	
Gly	Val	Gly	Ile	Val	Gly	Glu	Arg	Ser	Gly	Leu	Trp	Thr	Glu	Met	Tyr
		100						105						110	

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 10399
 10400

Arg Val Ile Arg Glu Val Arg Pro Lys Tyr Ile Ile Ile Glu Asn Ser
 115 120 125
 Pro Met Leu Leu Ile Arg Gly Phe Glu Arg Val Leu Cys Asn Leu Ser
 130 135 140
 Glu Ile Gly Tyr Asp Ala Glu Trp Gln Cys Leu Ser Gly Thr Asp Phe
 145 150 155 160
 Gly Ile Gln Gln Gly Arg Glu Arg Leu Tyr Cys Leu Ala Tyr Ser Cys
 165 170 175
 Glu Ile Asn Ser Lys Arg Ser Met Gln Glu Ser Ile Phe Arg Lys Pro
 180 185 190
 Tyr Val Phe Thr Thr Gly Leu Glu Gly Gln Arg Val Arg
 195 200 205

<210> 10372

<211> 276

<212> PRT

<213> B.fragilis

<400> 10372

Tyr Ile Ser Leu Trp Arg His Arg Pro Cys Arg Arg Ser Asn Phe Ser
 1 5 10 15
 Ile Pro Asp Arg Val Lys Tyr Asp Lys Asp Cys Phe Thr Ile Glu Gly
 20 25 30
 Lys Asp Ile Phe Ile Leu Ser Ala Ala Phe His Tyr Phe Arg Cys Pro
 35 40 45
 Gln Glu Leu Trp Arg Asp Arg Phe Arg Lys Ile Lys Glu Ala Gly Phe
 50 55 60
 Asn Thr Val Glu Thr Tyr Val Pro Trp Asn Trp His Glu Arg Asn Met
 65 70 75 80
 Pro Lys Ser Val Asp Asp Tyr Ser Gln Cys Asn Phe Asp Asp Leu Lys
 85 90 95
 Ala Trp Leu His Met Ala His Glu Glu Phe Gly Leu Tyr Thr Ile Val
 100 105 110
 Arg Pro Gly Pro Phe Ile Cys Ala Glu Trp Ala Gly Gly Ala Tyr Pro
 115 120 125
 Arg Trp Leu Ala Lys Phe Cys Pro Asp Ser Tyr Asp Thr Ser Phe Trp
 130 135 140
 Leu Arg Ser Asn His Pro Glu His Met Lys Trp Ser Glu His Trp Tyr
 145 150 155 160
 Asn Ala Val Cys Arg Val Phe Ser Glu Glu Gln Leu Thr Arg Lys Gln
 165 170 175
 Pro Gly Glu Lys Gly Ile Ile Met Val Gln Leu Glu Asn Glu Tyr Ile
 180 185 190
 Tyr Phe Asp Met Glu Ser Glu Lys Lys Glu Glu Phe Leu Arg Val Leu
 195 200 205
 Ser Asp Ala Cys Ile Arg Asn Gly Ile Asp Val Pro Leu Phe Thr Cys
 210 215 220
 Val Thr Pro Glu Val Arg Gly Ser His His Pro Val Ile Ser Gln Leu
 225 230 235 240
 Phe Asp Met Asn Asn Gln Tyr Val Trp Trp Asn Met His Glu Ala Lys
 245 250 255
 Ser Arg Ile Glu Lys Leu Glu Asn Arg Val Phe Thr Ser Arg Trp Ser
 260 265 270
 Thr Thr Gly Val
 275

<210> 10373

<211> 217

<212> PRT

<213> B.fragilis

<400> 10373

Glu Lys Phe Val Leu Gly Cys Ile Lys Arg Ile Trp Gly Tyr Pro His
 1 5 10 15
 Ile Leu Glu Asn Gly Ile Leu Tyr Leu Leu Ile Arg Lys Thr Cys Arg
 20 25 30
 Ala Gly Lys Asn His Ile Ser Val Thr Ala Asp Gly Leu Arg Gly Gly
 35 40 45
 Thr Arg Gly Ile Val Thr Arg Arg Tyr Asp Gly Val Phe Val Pro Glu
 50 55 60
 Gly Tyr Leu Val Pro Tyr Ser Gly Asp Glu Glu Gly Val Val Val
 65 70 75 80
 Lys Ala Thr Ala Trp Glu Asn Val Ile Cys Thr Lys Thr Pro Leu Lys
 85 90 95
 Val Val Arg Val Glu Ala Thr Ser Glu Gln Lys Arg Tyr Glu Ala Ser
 100 105 110
 His Ile Thr Asp Gly Asp Asp Phe Ser Trp Trp Ile Ala Asp Asp Glu
 115 120 125
 Ser Gln Pro Gln Ile Val Leu Leu Glu Leu Glu Arg Ser Val Asn Val
 130 135 140
 Phe Ala Ser Arg Ile Arg Phe Gln Lys Asp Ser Ser Thr Tyr Thr His
 145 150 155 160
 Lys Val Glu Ile Ser Ile Asp Gly Lys Asn Trp Glu Thr Leu Tyr Glu
 165 170 175
 Arg Glu Cys Thr Gly Trp Asp Phe Lys Pro Val Gln Ile Gly Lys Glu
 180 185 190
 Leu Lys Tyr Met Arg Leu Thr Ile Glu Lys Ser Ser Glu Gly Ala Ala
 195 200 205
 Gly Leu Ala Glu Val Thr Leu Tyr Gln
 210 215

<210> 10374

<211> 362

<212> PRT

<213> B.fragilis

<400> 10374

Asn Pro Lys Pro Met Lys Leu Lys His Ile Pro Leu Leu Leu Leu Val
 1 5 10 15
 Leu Thr Cys Cys Pro Ala Cys Gln Asn Lys Lys Ala Ser Ala Thr Lys
 20 25 30
 Glu Ile Pro Ser Glu Ala Thr Tyr Thr Asn Pro Leu Leu Ala Val Gly
 35 40 45
 Ala Glu Pro Trp Ala Val Phe His Glu Gly Lys Tyr Tyr Tyr Thr Gln
 50 55 60
 Gly Ala Glu Asn Lys Ile Ile Leu Trp Glu Thr Asn Asp Ile Thr Asp
 65 70 75 80
 Leu Glu His Ala Ala Arg Lys Glu Val Trp Ile Pro Lys Glu Ile Ser
 85 90 95
 Asn Ser Tyr His Leu Trp Gly Pro Glu Ile His Arg Ile Asp Gly Lys
 100 105 110
 Trp Tyr Val Tyr Phe Ala Ala Asp Asp Gly Asn Met Asp Asn His His
 115 120 125
 Ile Tyr Val Ile Glu Asn Ser Ser Pro Asn Pro Leu Glu Gly Glu Phe
 130 135 140
 Val Met Lys Gly Arg Ile Lys Thr Asp Lys Asp Asp Asn Trp Ala Ile
 145 150 155 160
 His Ala Ser Thr Phe Glu His Gln Gly Gln Arg Tyr Leu Ile Trp Cys

10373
 10374
 362
 PRT
 B.fragilis

165 170 175
 Gly Trp Pro Lys Arg Arg Ile Glu Thr Glu Thr Gln Cys Ile Tyr Ile
 180 185 190
 Ala Arg Met Glu Asn Pro Trp Thr Leu Ser Ser Asp Arg Val Met Ile
 195 200 205
 Ala Glu Pro Glu Tyr Glu Trp Glu Arg Gln Trp Ile Ser Pro Asp Gly
 210 215 220
 Ser Lys Thr Ala Tyr Pro Ile His Val Asn Glu Ser Pro Gln Phe Phe
 225 230 235 240
 Glu Ser Lys Asn Lys Asp Lys Val Leu Ile Tyr Tyr Cys Ala Ser Gly
 245 250 255
 Ser Trp Thr Pro Tyr Tyr Cys Ile Gly Leu Leu Thr Ala Asp Ala Gly
 260 265 270
 Ser Asp Leu Thr Asn Ala Ala Ser Trp Lys Lys Gln Asp Thr Pro Val
 275 280 285
 Phe Glu Gln Gln Pro Glu Asp Ser Val Phe Gly Pro Gly Ser Pro Ser
 290 295 300
 Phe Val Pro Thr Pro Asp Glu Lys Glu Trp Tyr Met Leu Tyr His Ala
 305 310 315 320
 Arg Lys Ile Pro Asn Asp Ala Pro Gly Ala Thr Asp Ser Arg Ser Pro
 325 330 335
 Arg Leu Gln Lys Ile Ser Trp Asp Ala Asn Gly Met Pro Val Leu Gly
 340 345 350
 Lys Pro Cys Lys Glu Gly Thr Gln Ile Lys
 355 360

<210> 10375

<211> 205

<212> PRT

<213> B.fragilis

<400> 10375

Lys Asp Tyr Tyr Gly His Gly Thr Glu Ala Arg Lys Pro Gly Thr Ala
 1 5 10 15
 Ile Ala Arg Thr Leu Phe Gly Glu Leu Asn Pro Ser Gly Lys Leu Pro
 20 25 30
 Val Thr Phe Glu Lys Arg Trp Glu Asp Asn Pro Thr Phe His Ser Tyr
 35 40 45
 Tyr Asp Pro Asp Gly Asp Lys His Val Glu Tyr Thr Glu Gly Ile Phe
 50 55 60
 Val Gly Tyr Arg Gly Tyr Asp Lys Leu Lys Arg Glu Val Gln Tyr Pro
 65 70 75 80
 Phe Gly Tyr Gly Leu Ser Tyr Thr Arg Phe Lys Leu Ser Ala Pro Thr
 85 90 95
 Val Gly Thr Pro Lys Thr Asp Gly Ser Val Thr Val Thr Cys Lys Leu
 100 105 110
 Thr Asn Thr Gly Arg Thr Ala Gly Ala Glu Val Val Gln Leu Tyr Val
 115 120 125
 Ser Asn Lys Asp Thr Thr Val Glu His Pro Glu Lys Glu Leu Lys Gly
 130 135 140
 Phe Arg Lys Val Tyr Leu Glu Pro Gly Glu Thr Lys Ser Ile Glu Ile
 145 150 155 160
 Thr Val Pro Ala Glu Ala Phe Ser His Tyr Asp Thr Gly Ser Arg Arg
 165 170 175
 Leu Val Ile Asp Arg Gly Ser His Asp Ile Leu Leu Gly Phe Ser Ser
 180 185 190
 Arg Asp Ile Lys Ala Lys Met Ser Val Gly Ile Ser Arg
 195 200 205

10375
 205
 PRT
 B.fragilis
 10375

<210> 10376
 <211> 292
 <212> PRT
 <213> B.fragilis

<400> 10376

Leu Pro Met Asn Ala Leu His Pro Trp Arg Ser Thr Glu Glu Ile Leu
 1 5 10 15
 Lys Lys Gln Glu Gln Val Asn Arg Lys Lys Lys Glu Leu Gln Gln Val
 20 25 30
 Lys Val Ala Lys Glu Asn Leu Leu Arg Glu Arg Glu Gly Glu Lys Ala
 35 40 45
 Lys Leu Glu Ala Gln Glu Lys Glu Lys Arg Glu Ile Val Ala Gly Leu
 50 55 60
 Gln Lys Lys Gln Lys Gly Leu Gln Ser Glu Ile Ser Lys Lys Arg Arg
 65 70 75 80
 Glu Ala Asn Gln Leu Asn Ala Lys Ile Asp Lys Leu Ile Ala Glu Glu
 85 90 95
 Ile Glu Arg Ala Arg Lys Arg Ala Glu Glu Glu Ala Arg Arg Glu Ala
 100 105 110
 Ala Ala Arg Arg Lys Ala Ala Ala Lys Glu Ser Lys Ser Ser Ser Thr
 115 120 125
 Gly Gly Gly Thr Val Pro Ala Lys Lys Lys Ala Glu Pro Leu Glu Arg
 130 135 140
 Phe Thr Met Ser Lys Ala Asp Arg Glu Leu Ser Gly Asn Phe Val Ser
 145 150 155 160
 Asn Arg Gly Lys Leu Pro Met Pro Ile Thr Gly Pro Tyr Ile Ile Thr
 165 170 175
 Ser His Tyr Gly Gln Tyr Ala Val Glu Gly Leu Arg Asn Val Lys Leu
 180 185 190
 Asp Asn Lys Gly Ile Asp Ile Gln Gly Lys Pro Gly Ala Gln Ala Arg
 195 200 205
 Ala Ile Phe Asp Gly Lys Val Ala Ala Val Phe Gln Leu Asn Gly Leu
 210 215 220
 Phe Asn Val Leu Ile Arg His Gly Asp Tyr Ile Ser Val Tyr Cys Asn
 225 230 235 240
 Leu Ser Ser Ala Ser Val Lys Ser Gly Asp Thr Val Thr Thr Arg Gln
 245 250 255
 Ala Ile Gly Pro Ile Phe Ser Asp Gly Ser Asp Asn Gly Arg Thr Val
 260 265 270
 Leu His Phe Gln Leu Arg Arg Glu Arg Asp Lys Leu Asn Pro Glu Pro
 275 280 285
 Trp Leu Asn Arg
 290

<210> 10377
 <211> 1050
 <212> PRT
 <213> B.fragilis

<400> 10377

Ile Gln His Met Arg Ile Ile Thr Leu Leu Ile Thr Leu Phe Ala Phe
 1 5 10 15
 Gly Ile Thr Pro Leu Gln Ala Phe Ser Tyr Phe Ser Phe Lys Lys Tyr
 20 25 30
 Gln Val Glu Asp Gly Leu Ser His Asn Thr Val Trp Cys Ala Met Gln
 35 40 45
 Asp Ser Tyr Gly Phe Ile Trp Leu Gly Thr Ser Asp Gly Leu Asn Cys
 50 55 60

Tyr 65	Asn	Gly	Arg	Gly	Asn 70	Lys	Val	Tyr	Arg	Asn 75	Val	Leu	Asn	Asp	Lys 80
Phe	Ser	Leu	Glu	Asn 85	Asn	Phe	Val	Gln	Ala	Leu	Phe	Glu	Glu	Glu	Asn 90
His	Asn	Ile	Trp 100	Val	Gly	Thr	Asn	Trp	Gly	Leu	Tyr	Ile	Tyr	Asp	Arg 110
Glu	Tyr	Asp	Arg 115	Phe	Thr	Tyr	Phe	Asp	Lys	Lys	Thr	Arg	Tyr	Gly	Val 120
Phe	Ile	Ser	Ser	Glu	Ile	Lys	Lys	Ile	Ile	Lys	Ser	Glu	Ser	Gly	Leu 130
Ile	Trp	Ile	Ala	Thr	Leu	Gly	Gln	Gly	Leu	Phe	Val	Tyr	Asn	Pro	Gln 145
Thr	Asp	Val	Leu	Thr 165	Gln	Asn	Ser	Leu	Gln	Thr	Ser	Phe	Val	Trp	Asp 150
Val	Cys	Glu	Asn 180	Asn	Ser	Gly	His	Ile	Tyr	Ala	Ser	Ser	Leu	Gln	Glu 170
Gly	Leu	Leu	Cys 195	Phe	Asp	Glu	Asn	Gly	Lys	Phe	Leu	Gln	Ser	Tyr	Pro 200
Leu	Leu	Ser	Ala	Gly	Asn	Asn	Pro	Asp	Asn	Tyr	Arg	Ile	Asn	Cys	Leu 210
Leu	Asp	Ile	Arg	Ser	Asp	Ile	Trp	Phe	Gly	Ala	Gly	Ser	Asn	Leu	Leu 225
Tyr	Cys	Leu	Asn	Glu	Arg	Thr	Gly	Asn	Leu	Asp	Cys	Tyr	Asn	Ala	Ser 230
His	Leu	Asn	Phe 260	Gly	Ala	Ile	Arg	Cys	Leu	Leu	Asn	Tyr	Ser	Glu	Thr 245
Glu	Leu	Leu	Val 275	Gly	Thr	Asp	Asn	Gly	Leu	Tyr	Leu	Phe	Asp	Leu	His 280
Asp	Lys	Asn	Phe	Ser	Arg	Ile	Asp	Asn	Pro	Ser	Asp	Pro	Arg	Ser	Leu 290
Ser	Asp	Gln	Ser	Ile	Asn	Ala	Met	Met	Arg	Asp	Ala	Glu	Gly	Gly	Ile 305
Trp	Val	Leu	Thr	Asn	Leu	Gly	Gly	Val	Asn	Tyr	Leu	Ala	Lys	Pro	Thr 310
Lys	Arg	Phe	Asp 340	Tyr	Tyr	Pro	Pro	Val	Tyr	Arg	Asp	Gly	Gly	Val	Ala 325
Ala	Gly	Lys	Val	Val	Gly	Pro	Phe	Cys	Glu	Asn	Ala	Ala	Gly	Asp	Ile 330
Trp	Val	Gly	Thr	Arg	Asp	Gly	Leu	Cys	Phe	Phe	Asp	Val	Ser	Thr	His 345
Gln	Leu	Thr	Ala	Tyr	Pro	Ile	Gly	Gly	Gly	Val	Asp	Lys	Lys	Tyr	Asp 350
Ile	Arg	Ser	Leu	Leu	Leu	Asp	Gly	Glu	Arg	Leu	Trp	Ile	Gly	Thr	Tyr 360
Ala	Glu	Gly	Leu	Lys	Val	Leu	Asp	Leu	Arg	Thr	Gly	His	Val	Lys	Ser 370
Tyr	Asn	His	Leu	Gln	Asp	Thr	Pro	Asn	Thr	Ile	Cys	Ser	Asp	Asp	Val 380
Leu	Ala	Val	Tyr	Lys	Asp	Arg	Ser	Gly	Asp	Ile	Phe	Val	Gly	Thr	Ser 390
Trp	Gly	Leu	Cys	Arg	Tyr	Asn	Pro	Arg	Glu	Asp	Asn	Phe	Ser	Thr	Ile 400
Thr	Thr	Val	Gly	Ser	Met	Val	Ser	Val	Val	Asp	Ile	Leu	Glu	Asp	Met 410
Tyr	Asp	Asn	Leu	Trp	Ile	Gly	Thr	Ser	Asn	Ser	Gly	Val	Phe	Arg	Phe 420
Asn	Thr	Arg	Asn	Gly	His	Trp	Lys	His	Phe	Gln	His	Glu	Arg	Asn	Asp 430
Ser	Thr	Thr	Ile	Thr	Asn	Asn	Ser	Val	Ile	Thr	Leu	Phe	Glu	Asp	Leu 440

530	535	540
Lys Gly Thr Met Trp Val Gly Thr Asn Gly Gly Gly Leu Cys Ser Phe		
545	550	555
Asp Pro Lys Thr Glu Thr Phe Ile Asp Phe Asp Pro Asp Asn Thr Ile		560
	565	570
Leu Pro Asn Arg Val Ile Tyr Ser Ile Glu Gln Asp Lys Thr Gly Asp		575
	580	585
Phe Trp Ile Ser Ser Asn Ala Gly Leu Ile Thr Ile Asn Pro Ile Thr		590
	595	600
Lys Gln His Phe Arg Gln Phe Thr Val Asn Asp Gly Leu Gln Gly Asn		605
	610	615
Gln Phe Thr Ala Gln Ser Ser Leu Lys Thr Ala Ser Gly Lys Leu Tyr		620
625	630	635
Phe Gly Gly Ile Ser Gly Phe Asn Ser Phe Val Pro Asp Gln Phe Met		640
	645	650
Asp Asn Gln Tyr Ile Pro Ser Val Tyr Ile Thr Glu Ile Arg Leu Pro		655
	660	665
Tyr Thr Thr Asp Glu Arg Leu Val Gln Asp Ile Leu His Leu Glu Gly		670
	675	680
Pro Leu Tyr Arg Ala Glu Thr Ile Thr Leu Pro Tyr Glu His Asn Thr		685
	690	695
Phe Ser Val Ser Phe Val Ala Leu Ser Tyr Glu Asp Pro Leu Lys Asn		700
705	710	715
Arg Tyr Ser Tyr Arg Leu Lys Gly Val Asp Lys Glu Trp Val Ile Asn		720
	725	730
Ser Glu Gln Asn Thr Ala Ser Tyr Thr Asn Leu Pro Pro Gly Lys Tyr		735
	740	745
Glu Phe Glu Val Arg Gly Ser Asn Asn Asp His Lys Trp Asn Asp Gln		750
	755	760
Thr Thr Ser Leu Leu Ile Val Val Thr Pro Pro Trp Trp Leu Thr Thr		765
	770	775
Trp Ala Tyr Cys Val Tyr Thr Leu Leu Leu Leu Gly Leu Ala Tyr Tyr		780
785	790	795
Ala Gly Trp His Trp Asn Arg His Val Lys Lys Lys Tyr Lys Arg Arg		800
	805	810
Met Glu Glu Tyr Gln Thr Thr Lys Glu Lys Glu Val Tyr Lys Ser Lys		815
	820	825
Ile Ser Phe Phe Ile Asn Leu Val His Glu Ile Arg Thr Pro Leu Ser		830
	835	840
Leu Ile Arg Leu Pro Leu Glu Lys Leu Leu Glu Asp Lys Arg Glu Gly		845
	850	855
Arg Asp Ala Lys Tyr Leu Ser Val Ile Asp Arg Asn Val Asn Tyr Leu		860
865	870	875
Leu Gly Ile Thr Asn Gln Leu Leu Asp Phe Gln Lys Met Glu Asn Gly		880
	885	890
Gly Val Gln Leu Ser Leu Lys Lys Cys Asp Ile Asn Gln Leu Val Ser		895
	900	905
Asp Val His Ser Gln Phe Thr Ser Pro Ala Glu Leu Lys Gly Ile Ser		910
	915	920
Val Met Leu Asp Leu Pro Glu Gly Glu Ile Phe Ala Ser Val Asp Arg		925
	930	935
Glu Lys Val Cys Lys Ile Ile Val Asn Leu Ile Gly Asn Ala Val Lys		940
945	950	955
Tyr Ala Gln Ser Arg Ile Asp Ile Lys Leu Val Ser Ser Asp Glu Gly		960
	965	970
Phe Arg Val Ser Val Ser Asp Asp Gly Pro Gly Ile Pro Asp Val Glu		975
	980	985
Lys Arg Lys Val Phe Glu Ala Phe Tyr Gln Val Lys Asp Gly Lys Ser		990
	995	1000
		1005

Gly Ala Val Gly Thr Gly Ile Gly Leu Ala Phe Ser Lys Ser Leu Ala
 1010 1015 1020
 Glu Ala His His Gly Thr Leu Ser Leu Glu Asp Ser Val Tyr Gly Gly
 1025 1030 1035 1040
 Ser Leu Phe Cys Ser His Phe Ala Leu Gly
 1045 1050

<210> 10378
 <211> 301
 <212> PRT
 <213> B.fragilis

<400> 10378

Ala Leu Lys Ile Val Tyr Met Val Asp Arg Ser Phe Val Leu Thr Leu
 1 5 10 15
 Pro Trp Gly Glu Glu Ala Val Ser Glu Glu Pro Glu Val Val Ile Pro
 20 25 30
 Asp Gly Arg Glu Ala Ala Asp Glu Glu Gln Gly Thr Glu Leu Ser Gly
 35 40 45
 Ser Lys Phe Thr Ile Leu Leu Val Glu Asp Asn Val Asp Leu Leu Asn
 50 55 60
 Leu Thr Arg Glu Ser Leu Ser Thr Trp Phe Lys Val Leu Lys Ala Gln
 65 70 75 80
 Asn Gly Arg Gln Ala Leu Glu Val Leu Ala Asn Glu Thr Val Asp Val
 85 90 95
 Ile Val Ser Asp Val Met Met Pro Glu Met Asn Gly Leu Glu Leu Thr
 100 105 110
 Ala Lys Val Lys Ser Asp Ile Glu Tyr Ser His Ile Pro Val Ile Leu
 115 120 125
 Leu Thr Ala Lys Thr Thr Leu Glu Ala Lys Val Glu Gly Phe Glu Cys
 130 135 140
 Gly Ala Asp Val Tyr Ile Glu Lys Pro Phe Ser Ile Arg Gln Leu Arg
 145 150 155 160
 Lys Gln Ile Glu Asn Leu Leu Lys Leu Arg Gln Ala Phe His Lys Met
 165 170 175
 Met Ser Glu Leu Ser Gly Gly Asn Gly Ala Ala Pro Ile Ser Pro Val
 180 185 190
 Glu Tyr Ser Val Ser Gln Lys Asp Cys Glu Leu Met Ala Lys Val Arg
 195 200 205
 Ala Ala Val Glu Ala Gln Leu Ser Asp Glu Asn Phe Ser Val Asp Thr
 210 215 220
 Leu Ala Glu Ser Leu Asn Met Ser Arg Ser Asn Phe Tyr Arg Lys Ile
 225 230 235 240
 Lys Ala Leu Ala Gly Met Pro Pro Asn Asp Tyr Leu Lys Thr Ile Arg
 245 250 255
 Leu Asn Lys Ala Ala Glu Leu Leu Lys Ser Gly Val Arg Ile Thr Glu
 260 265 270
 Val Cys Glu Lys Ile Gly Phe Ser Ser Ser Ser Tyr Phe Ala Lys Cys
 275 280 285
 Phe Lys Ile Gln Phe Gly Val Leu Pro Lys Asp Tyr His
 290 295 300

<210> 10379
 <211> 649
 <212> PRT
 <213> B.fragilis

<400> 10379

Arg Asn Pro Val Lys Thr Leu Thr Leu Gln Cys Leu Phe Ser Thr Ala

1	5										10			15		
Gln	Lys	Arg	Phe	Thr	Ala	Asp	Val	Glu	Gln	Gln	Ala	Glu	Lys	Ile	Leu	
			20					25					30			
Ser	Gln	Met	Thr	Leu	Asp	Glu	Lys	Leu	Ser	Tyr	Ile	Gly	Gly	Ile	Asn	
		35					40					45				
Trp	Met	Tyr	Thr	Arg	Pro	Leu	Glu	Arg	Phe	Gly	Ile	Pro	Arg	Leu	Lys	
	50					55					60					
Met	Ser	Asp	Gly	Pro	Gln	Gly	Leu	Gly	Thr	His	Gly	Pro	Ser	Thr	Ala	
65					70					75					80	
Tyr	Pro	Cys	Ala	Leu	Met	Leu	Ala	Ala	Thr	Trp	Asn	Glu	Gln	Leu	Ala	
				85					90					95		
Thr	Glu	Tyr	Gly	Ser	Ala	Leu	Gly	Lys	Asp	Cys	Arg	Ala	Arg	Gly	Val	
			100					105					110			
His	Val	Val	Leu	Gly	Pro	Ala	Val	Asn	Ile	Tyr	Arg	Ala	Pro	Met	Cys	
		115						120				125				
Gly	Arg	Asn	Phe	Glu	Tyr	Met	Gly	Glu	Asp	Pro	Tyr	Leu	Thr	Ser	Arg	
	130					135					140					
Met	Ala	Thr	Gly	Tyr	Ile	Lys	Gly	Val	Gln	Gly	Gln	Gly	Val	Met	Ala	
145					150					155					160	
Thr	Ile	Lys	His	Phe	Ile	Ala	Asn	Asn	Ser	Asp	Tyr	Asp	Arg	Asp	His	
				165					170					175		
Ile	Ser	Ser	Asp	Ile	Asp	Glu	Arg	Thr	Leu	Asn	Glu	Ile	Tyr	Phe	Pro	
			180					185					190			
Ser	Phe	Arg	Ala	Ala	Val	Gln	Glu	Ala	Glu	Val	Gly	Ala	Val	Met	Ser	
		195					200					205				
Ser	Tyr	Asn	Leu	Leu	Asn	Gly	Ile	Tyr	Thr	Thr	Glu	His	Pro	Trp	Leu	
	210					215					220					
Leu	Lys	Asp	Val	Leu	Arg	Gln	Gln	Trp	Gly	Phe	Lys	Gly	Ile	Leu	Met	
225					230					235					240	
Ser	Asp	Trp	Gly	Ser	Thr	His	His	Cys	Ile	Pro	Ala	Val	Lys	Gly	Gly	
				245					250					255		
Leu	Asp	Leu	Glu	Met	Pro	Ala	Gly	Ser	Lys	Met	Gln	Pro	Glu	Glu	Leu	
			260					265					270			
Lys	Tyr	Tyr	Leu	Arg	Thr	Gly	Asp	Ile	Thr	Ile	Glu	Met	Ile	Asp	Glu	
		275					280					285				
Lys	Val	Arg	His	Ile	Leu	Gln	Thr	Leu	Leu	Ala	Phe	Gly	Phe	Arg	Glu	
	290					295					300					
Thr	Gln	Gln	Pro	Asp	Thr	His	Ile	Pro	Leu	Asn	Asn	Pro	Gln	Cys	Ala	
305					310					315					320	
Gln	Thr	Ala	Leu	Asn	Val	Ala	Ser	Glu	Gly	Leu	Val	Leu	Leu	Lys	Asn	
				325					330					335		
Thr	Asn	Gln	Ile	Leu	Pro	Ile	Arg	Ser	Gly	Lys	Val	Lys	Thr	Ile	Ala	
			340					345					350			
Val	Val	Gly	Lys	Asn	Ala	Gln	Gly	Tyr	Val	Cys	Gly	Gly	Gly	Ser	Gly	
		355					360					365				

[illegible]

<400> 10380

<210> 10381

<400> 10381

<210> 10382

<211> 194

<212> PRT

<213> B.fragilis

<400> 10382

Arg	Leu	Leu	Ser	Ser	Gly	Leu	Phe	Ser	Leu	Ser	Leu	Leu	Glu	Asn	Ile
1				5					10					15	
Glu	Phe	Met	Met	Thr	Leu	Ile	Arg	Ile	Thr	Ser	Ala	Asp	Asp	Ser	Arg
			20					25					30		
Leu	Asn	Arg	Leu	Ile	Pro	Leu	Tyr	Glu	Glu	Ser	Phe	Pro	Glu	Ser	Glu
			35				40					45			
Arg	Arg	Lys	Ile	Gly	Gln	Leu	Lys	Arg	Met	Ile	Glu	Asn	His	Ala	Pro
			50			55				60					
Met	Tyr	Phe	Asn	Ala	Ile	Glu	Cys	Asp	Gly	Glu	Leu	Ser	Gly	Met	Phe
65					70					75					80
Val	Tyr	Trp	Asp	Met	Gly	Asp	Phe	Tyr	Tyr	Leu	Glu	His	Leu	Ala	Val
				85					90					95	
Phe	Pro	Glu	Met	Arg	Asn	Lys	Lys	Ile	Gly	Gln	Gln	Val	Leu	Asp	Tyr
			100					105					110		
Val	Ala	Glu	His	Leu	Lys	Gly	Val	Arg	Leu	Leu	Glu	Val	Glu	Pro	Thr
			115					120				125			
Glu	Asp	Glu	Met	Thr	Thr	Arg	Arg	Val	Asn	Tyr	Tyr	Arg	Arg	Asn	Gly
			130			135					140				
Tyr	Glu	Val	Leu	Asp	Lys	Thr	Tyr	Val	Gln	Pro	Ser	Tyr	His	Ala	Leu
145					150					155					160
Glu	Asp	Ala	Cys	Pro	Leu	Trp	Ile	Met	Gly	Ser	Glu	Asp	Ser	Pro	Arg
				165					170					175	
Leu	Ala	Glu	Gln	Val	Glu	Arg	Ile	Lys	Glu	Glu	Val	Tyr	Arg	Gln	Gln

Val Gly 180

185

190

<210> 10383
<211> 235
<212> PRT
<213> B.fragilis

<400> 10383

Phe	Val	Ser	Pro	Asp	Asn	Lys	Leu	Tyr	Asn	Asn	Asn	Gln	Val	Ile	Thr
1			5					10						15	
Asn	His	Gln	Leu	Pro	Met	Lys	Val	Ala	Tyr	Leu	Ser	Ser	Ala	Tyr	Leu
		20					25						30		
Ala	Pro	Val	Glu	Tyr	Tyr	Ser	Lys	Leu	Leu	Asn	Tyr	Asp	Lys	Ile	Phe
	35						40					45			
Ile	Glu	Gln	His	Asp	His	Tyr	Met	Lys	Gln	Thr	Tyr	Arg	Asn	Arg	Cys
	50					55					60				
Thr	Ile	Ala	Gly	Pro	Glu	Gly	Glu	Leu	Ala	Leu	Ser	Ile	Pro	Thr	Val
65					70				75					80	
Lys	Pro	Glu	Glu	Pro	Lys	Cys	Pro	Met	Lys	Asp	Ile	Arg	Ile	Ser	Asp
				85				90					95		
His	Gly	Asn	Trp	Arg	His	Leu	His	Trp	Asn	Ala	Ile	Glu	Ser	Ala	Tyr
		100						105					110		
Asn	Ser	Thr	Pro	Phe	Phe	Glu	Tyr	Tyr	Lys	Asp	Asp	Phe	Arg	Pro	Phe
		115					120					125			
Tyr	Glu	Lys	Lys	Tyr	Glu	Phe	Leu	Thr	Asp	Phe	Asn	Glu	Glu	Leu	Cys
	130					135					140				
Arg	Leu	Val	Cys	Glu	Leu	Ile	Asp	Ile	Gln	Pro	Ala	Ile	Glu	Arg	Thr
145					150				155					160	
Lys	Glu	Tyr	Lys	Thr	Asp	Phe	Ala	Pro	Asn	Glu	Ile	Asp	Phe	Arg	Glu
				165				170					175		
Ala	Ile	His	Pro	Lys	Lys	Asp	Phe	His	Arg	Thr	Asp	Pro	Glu	Phe	Ile
			180					185					190		
Pro	Gln	Pro	Tyr	Tyr	Gln	Val	Phe	Glu	Ala	Arg	His	Gly	Phe	Leu	Pro
		195				200						205			
Asn	Leu	Ser	Ile	Ile	Asp	Leu	Leu	Phe	Asn	Met	Gly	Pro	Glu	Ser	Leu
	210					215					220				
Leu	Ile	Leu	Gln	Lys	Thr	Cys	Ala	Asp	Ser	Gln					
225					230					235					

<210> 10384
<211> 413
<212> PRT
<213> B.fragilis

<400> 10384

Leu	Ile	Lys	Pro	Thr	Ser	Asn	Lys	Asn	Arg	Leu	Met	Asn	Gln	Pro	Asp
1				5					10					15	
Ile	Met	Thr	Leu	Pro	Lys	Asp	Lys	Leu	Phe	Leu	Ser	Glu	Gln	Thr	Trp
		20						25					30		
Arg	Trp	Tyr	Gly	Pro	Asp	Asp	Pro	Val	Ser	Leu	Trp	Asp	Ile	Lys	Gln
	35						40					45			
Ala	Gly	Ala	Thr	Gly	Ile	Val	Asn	Ala	Leu	His	His	Ile	Pro	Asn	Gly
	50					55					60				
Glu	Val	Trp	Thr	Val	Glu	Glu	Ile	Met	Lys	Arg	Lys	Glu	Leu	Ile	Glu
65					70				75					80	
Ser	Val	Gly	Leu	Lys	Trp	Ser	Val	Val	Glu	Ser	Val	Pro	Val	His	Glu
				85					90					95	

His Ile Lys Thr Gln Thr Gly Asn Phe Arg Lys Tyr Ile Glu Asn Tyr
 100 105 110
 Lys Glu Ser Leu Arg Asn Leu Gly Gln Cys Gly Ile His Ile Val Thr
 115 120 125
 Tyr Asn Phe Met Pro Val Leu Asp Trp Thr Arg Thr Asp Leu Ala Tyr
 130 135 140
 Thr Leu Pro Asp Gly Ser Lys Ala Leu Arg Phe Glu Arg Ala Ala Phe
 145 150 155 160
 Ile Ala Phe Asp Leu Phe Leu Leu Lys Arg Pro Gly Ala Glu Thr Glu
 165 170 175
 Tyr Thr Asp Glu Gly Lys Thr Lys Ala Arg Ile Arg Phe Glu Gln Thr
 180 185 190
 Asp Glu Lys Glu Lys Gln Leu Leu Val Arg Asn Met Ile Ala Gly Leu
 195 200 205
 Pro Gly Ser Glu Glu Ser Phe Thr Leu Glu Gln Phe Gln His Glu Leu
 210 215 220
 Asp Arg Tyr Arg Gly Ile Asp Ala Glu Lys Leu Arg Thr His Leu Ile
 225 230 235 240
 Tyr Phe Leu Lys Glu Ile Thr Ser Thr Ala Asp Glu Ala Gly Val Lys
 245 250 255
 Leu Val Ile His Pro Asp Asp Pro Pro Cys Ser Ile Leu Gly Leu Pro
 260 265 270
 Arg Ile Met Ser Cys Ala Glu Asp Phe Gln Ala Leu Ile Asp Ala Val
 275 280 285
 Pro Asn Glu Ser Asn Gly Leu Cys Leu Cys Thr Gly Ser Leu Gly Val
 290 295 300
 Ser Cys Thr Asn Asp Leu Glu Gly Met Met Arg Arg Phe Gly Asp Arg
 305 310 315 320
 Ile Asn Phe Val His Phe Arg Ser Thr Gln Arg Asp Ala Glu Gly Asn
 325 330 335
 Phe Tyr Glu Ala Asn His Leu Glu Gly Asp Val Asp Met Tyr His Val
 340 345 350
 Met Lys Ala Phe Leu Glu Leu Gln Gln Arg Arg Lys Val Ser Ile Pro
 355 360 365
 Met Arg Pro Asp His Gly His Gln Met Val Asp Asp Leu Lys Lys Lys
 370 375 380
 Thr Asn Pro Gly Tyr Ser Cys Ile Gly Arg Leu Arg Gly Leu Ala Glu
 385 390 395 400
 Leu Arg Gly Leu Glu Met Gly Ile Ala Lys Ser Ile Phe
 405 410

<210> 10385

<211> 93

<212> PRT

<213> B.fragilis

<400> 10385

Asn Thr Ala Thr Ala Leu Tyr Gln Cys Pro Leu Ser His Met Thr Ile
 1 5 10 15
 Leu Met Glu Gly Asn Ile Ala Thr Gln Asp Asp Thr Ile Ile Gln Gly
 20 25 30
 Thr Phe Ser Gly Asp Gly Gly Ala Asp Thr Gly Tyr Thr Ile Ile Ser
 35 40 45
 Asp Leu Tyr Ile Val Thr Asn Val Asp Phe Ile His Gln Glu Ile Ala
 50 55 60
 Ile Ala Tyr Phe Gly Ser Ile Pro Thr Glu Ser Ser Pro Thr Asp Asn
 65 70 75 80
 Tyr Val Phe Ala Asp Met Val Val Ile Pro Asp Asn Gln
 85 90

<400> 10386

<210> 10387

<400> 10387

Tyr	Phe	Gly	Tyr	Lys	Val	Tyr	Lys	Val	Ser	Lys	Thr	Met	Lys	Ile	Ala
1				5					10					15	
Leu	Ile	Gly	Tyr	Gly	Lys	Met	Gly	Lys	Glu	Ile	Glu	Lys	Val	Ala	Leu
			20					25					30		
Ser	Arg	Gly	His	Glu	Ile	Val	Ser	Ile	Ile	Asp	Ile	Asn	Asn	Gln	Asp
		35					40					45			
Asp	Phe	Glu	Ser	Glu	Ala	Phe	Lys	Ser	Ala	Asp	Val	Ala	Ile	Glu	Phe
	50					55					60				
Thr	Asn	Pro	Met	Val	Ala	Tyr	Ser	Asn	Tyr	Met	Lys	Ala	Phe	Lys	Ala
65				70						75				80	
Gly	Val	Lys	Leu	Val	Ser	Gly	Ser	Thr	Gly	Trp	Met	Ala	Glu	His	Gly
				85					90					95	
Asp	Glu	Val	Lys	Glu	Leu	Cys	Asn	Lys	Gly	Gly	Lys	Thr	Leu	Phe	Trp
			100					105					110		
Ser	Ser	Asn	Phe	Ser	Leu	Gly	Val	Thr	Ile	Phe	Ser	Ala	Val	Asn	Lys
		115					120					125			
Tyr	Leu	Ala	Lys	Ile	Met	Asn	Gln	Phe	Pro	Ala	Tyr	Asp	Val	Thr	Met
	130					135						140			
Ser	Glu	Thr	His	His	Val	His	Lys	Leu	Asp	Ala	Pro	Ser	Gly	Thr	Ala
145				150						155					160
Ile	Thr	Leu	Ala	Glu	Gly	Ile	Leu	Glu	Asn	Met	Glu	Arg	Lys	Ser	Val
			165						170					175	
Trp	Val	Lys	Glu	Glu	Ala	His	Ala	Thr	Asn	Glu	Leu	Pro	Ile	His	Ser
		180						185					190		
Ile	Arg	Glu	Gly	Glu	Val	Phe	Gly	Ile	His	Thr	Ile	Arg	Tyr	Asp	Ser
	195						200					205			
Glu	Ala	Asp	Ser	Ile	Ser	Ile	Thr	His	Asp	Ala	Lys	Asn	Arg	Gly	Gly

210		215		220
Phe Ala Leu Gly Ala Val Leu Ala Ala Glu Tyr Thr Ala Ala His Glu				
225		230		235
Gly Tyr Leu Gly Met Ser Asp Leu Phe Pro Phe Leu Lys Asp				240
	245		250	

<210> 10388
 <211> 324
 <212> PRT
 <213> B.fragilis

<400> 10388

Arg Ile Leu Gln Thr Pro Ser Arg Trp Leu Leu Gly Arg Lys Ile Lys				
1	5		10	15
Lys Thr Met Arg Lys Val Ile Gly Ile Gly Glu Thr Ile Leu Asp Ile				
	20		25	30
Ile Phe Arg Asn Asp Gln Pro Ser Ala Ala Val Pro Gly Gly Ser Val				
	35		40	45
Phe Asn Gly Ile Val Ser Leu Gly Arg Met Gly Val Asn Val Cys Phe				
	50		55	60
Ile Ser Glu Thr Gly Asn Asp His Val Gly Asn Ile Ile Leu Gln Phe				
65	70		75	80
Met Arg Asp Asn His Ile Pro Thr Asp His Val Asn Val Phe Pro Asp				
	85		90	95
Gly Lys Ser Pro Val Ser Leu Ala Phe Leu Asn Glu His Ser Asp Ala				
	100		105	110
Glu Tyr Ile Phe Tyr Lys Asp Tyr Pro Lys Gln Arg Leu Asp Val Leu				
	115		120	125
Phe Pro Ser Ile Asn Glu Asp Asp Ile Ile Val Ile Gly Ser Tyr Tyr				
	130		135	140
Ala Leu Asn Pro Val Leu Arg Asp Lys Ile Leu Glu Leu Leu Asp Ile				
145	150		155	160
Ala Lys Glu Lys Arg Ala Ile Val Tyr Tyr Asp Pro Asn Phe Arg Ser				
	165		170	175
Ser His Lys Asn Glu Ala Met Lys Leu Ala Pro Thr Ile Ile Glu Asn				
	180		185	190
Leu Glu Tyr Ala Asp Ile Val Arg Gly Ser Leu Glu Asp Phe Tyr Tyr				
	195		200	205
Met Tyr Gly Ile Lys Asp Val Glu Lys Ile Tyr Lys Asp Lys Ile Lys				
	210		215	220
Phe Tyr Cys Pro Leu Phe Leu Cys Thr Ala Gly Ala Glu Arg Ile Ser				
225	230		235	240
Leu Arg Thr Asn Ala Ile Ser Lys Glu Tyr Pro Val Ala Pro Leu Glu				
	245		250	255
Ala Val Ser Thr Ile Gly Ala Gly Asp Asn Phe Asn Ala Gly Leu Ile				
	260		265	270
Tyr Gly Met Leu Lys Tyr Asp Val Arg Tyr Arg Asp Leu Gln His Leu				
	275		280	285
Ser Glu Glu Thr Trp Asp Lys Val Ile Gln Cys Gly Gln Asp Phe Ala				
	290		295	300
Ala Glu Val Cys Lys Ser Phe Asn Asn Ser Ile Ser Gly Glu Phe Ala				
305	310		315	320
Ala Asn Tyr Arg				

<210> 10389
 <211> 61
 <212> PRT
 <213> B.fragilis

<400> 10389

Phe Ile Ser Leu Phe Leu Phe Glu Val Gly Leu Ile Ser Gln Cys Val
 1 5 10 15
 Cys Ser Val Ser Ser Leu Phe Arg Tyr Val Trp Asp Gln Lys Leu Asp
 20 25 30
 Phe Leu Tyr Ile Ala Lys Ala Leu Asn Pro Pro Ser Thr Thr Ala Thr
 35 40 45
 Val Pro Val Thr Lys Leu Ala Ala Ser Leu Met Arg Tyr
 50 55 60

<210> 10390

<211> 411

<212> PRT

<213> B.fragilis

<400> 10390

Gln Ile Thr Gln Lys Met Lys Lys His Leu Ile Leu Ser Ala Cys Leu
 1 5 10 15
 Ile Met Ala Ile Ser Ser Phe Ala Gln Lys Lys Asp Phe Ser Tyr Lys
 20 25 30
 Phe Tyr Gly Gln Ile Arg Thr Asp Leu Tyr Tyr Asn Ser Arg Ala Asn
 35 40 45
 Glu Glu Thr Val Asp Gly Leu Phe Tyr Met Tyr Pro Lys Asp Glu Val
 50 55 60
 Phe Asp Ser Asn Gly Arg Asp Leu Asn Ala Thr Ala Asn Gly Ser Phe
 65 70 75 80
 Tyr Thr Leu Tyr Thr Arg Leu Gly Leu Asp Val Lys Gly Pro Lys Leu
 85 90 95
 Gly Arg Ala Met Thr Ser Ala Lys Val Glu Ala Asp Phe Arg Gly Ser
 100 105 110
 Gly Thr Ser Tyr Ser Thr Ile Arg Leu Arg His Ala Tyr Leu Asn Leu
 115 120 125
 Asp Trp Gly Arg Ser Ala Leu Leu Leu Gly Gln Thr Trp His Pro Leu
 130 135 140
 Phe Gly Asp Val Ser Pro Gln Ile Leu Asn Leu Ser Val Gly Ala Pro
 145 150 155 160
 Phe Gln Pro Phe Ser Arg Ala Pro Gln Ile Arg Tyr Arg Tyr Thr His
 165 170 175
 Lys Gly Phe Gln Leu Thr Gly Ala Ala Ile Trp Gln Ser Gln Tyr Leu
 180 185 190
 Ser Gln Gly Ile Val Gly Lys Ser Gln Thr Tyr Ile Lys Asn Ser Cys
 195 200 205
 Val Pro Glu Phe Tyr Leu Gly Leu Asp Tyr Lys Ala Asn Gly Trp Ile
 210 215 220
 Ala Gly Ala Gly Ile Glu Leu Leu Ser Leu Lys Pro Arg Thr Glu Ser
 225 230 235 240
 Lys Val Glu Asp Gln Val Tyr Lys Val Asn Glu Arg Ile Thr Thr Leu
 245 250 255
 Ser Tyr Glu Gly His Val Lys Tyr Ser Asn Lys Asp Trp Phe Val Gly
 260 265 270
 Ala Lys Thr Val Leu Gly Ser Asn Leu Thr Gln Thr Ser Met Leu Gly
 275 280 285
 Gly Phe Gly Ile Lys Ser Ile Asp Asn Arg Thr Gly Glu Gln Lys Tyr
 290 295 300
 Thr Pro Ile Arg Val Ser Ser Ser Trp Leu Asn Val Val Tyr Gly Gln
 305 310 315 320
 Lys Trp Lys Pro Gly Ile Phe Leu Gly Tyr Val Lys Asn Met Gly Thr
 325 330 335

6178
 10389
 10390
 411
 PRT
 B.fragilis

Ser Asp Ala Leu Ala Ser Asn Gln Val Tyr Gly Thr Gly Thr Asn Val
 340 345 350
 Asp Gln Val Val Thr Ala Gly Ala Glu Leu Thr Tyr Asn Val Asn His
 355 360 365
 Trp Lys Phe Gly Val Glu Tyr Thr Tyr Thr Ser Ala Ala Tyr Gly Ser
 370 375 380
 Leu Tyr Leu Lys Asn Gly Lys Ile Ile Asp Thr His Tyr Val Gly Asn
 385 390 395 400
 Asn Arg Ile Val Gly Val Ala Met Phe Met Phe
 405 410

<210> 10391

<211> 528

<212> PRT

<213> B.fragilis

<400> 10391

Leu Lys Lys Gln Asn Met Lys Leu Asp Arg Phe Ile Asn Arg Pro Val
 1 5 10 15
 Leu Ser Thr Val Ile Ser Ile Val Ile Val Ile Leu Gly Val Leu Gly
 20 25 30
 Leu Leu Ser Leu Pro Ile Ser Gln Tyr Pro Asp Ile Ala Pro Pro Thr
 35 40 45
 Val Arg Val Asn Thr Thr Tyr Gln Gly Ala Asn Ala Gln Thr Val Leu
 50 55 60
 Asn Ser Val Ile Ala Pro Leu Glu Glu Gln Ile Asn Gly Val Glu Asn
 65 70 75 80
 Met Met Tyr Met Thr Ser Thr Ala Thr Asn Thr Gly Glu Ala Ser Ile
 85 90 95
 Glu Val Tyr Phe Lys Gln Gly Thr Asp Pro Asp Met Ala Ala Val Asn
 100 105 110
 Val Gln Asn Arg Val Ala Lys Ala Gln Gly Leu Leu Pro Ala Glu Val
 115 120 125
 Thr Lys Val Gly Val Ile Thr Ser Lys Arg Gln Thr Ser Met Leu Leu
 130 135 140
 Val Phe Ser Leu Tyr Ser Ser Asp Asp Lys Tyr Asp Asn Glu Phe Leu
 145 150 155 160
 Glu Asn Tyr Ala Lys Ile Asn Leu Val Pro Glu Val Gln Arg Val Pro
 165 170 175
 Gly Val Gly Asp Ala Met Val Leu Gly Ala Asp Tyr Ser Met Arg Ile
 180 185 190
 Trp Leu Lys Pro Asp Val Met Ala Gln Tyr His Leu Met Pro Thr Asp
 195 200 205
 Val Ser Ala Ala Leu Ala Glu Gln Asn Ile Glu Ala Ala Pro Gly Ser
 210 215 220
 Phe Gly Glu Gln Gly Lys Gln Thr Phe Gln Tyr Thr Leu Arg Tyr Lys
 225 230 235 240
 Gly Arg Leu Gln Ser Gln Glu Glu Phe Glu Asn Ile Val Ile Arg Ala
 245 250 255
 Asn Ser Asp Gly Gln Val Leu Arg Leu Lys Asp Ile Ala Thr Ile Glu
 260 265 270
 Leu Gly Arg Leu Thr Tyr Gly Phe Ser Asn Asn Val Asn Gly His Pro
 275 280 285
 Ala Val Thr Val Ile Val Phe Gln Thr Ala Gly Ser Asn Ala Thr Ala
 290 295 300
 Ile Ile Asn Asp Ile Leu Asp Leu Leu Glu Lys Ser Glu Ser Thr Phe
 305 310 315 320
 Pro Pro Gly Val Lys Val Asn Ile Ser Gln Asn Ala Asn Asp Phe Leu
 325 330 335

Phe Ala Ser Ile His Glu Val Val Lys Thr Leu Ile Glu Ala Phe Ile
 340 345 350
 Leu Val Phe Ile Val Val Tyr Ile Phe Leu Gln Asp Leu Arg Ser Thr
 355 360 365
 Leu Ile Pro Ala Ile Ala Ile Pro Val Ala Leu Ile Gly Thr Phe Phe
 370 375 380
 Val Leu Tyr Ile Ile Gly Phe Ser Ile Asn Leu Leu Thr Leu Cys Ala
 385 390 395 400
 Met Val Leu Ala Ile Ala Ile Val Val Asp Asp Ala Ile Val Val Val
 405 410 415
 Glu Gly Val His Ala Lys Leu Asp Gln Gly Tyr Lys Ser Ala Arg Leu
 420 425 430
 Ala Ser Ile Asp Ala Met Asn Glu Leu Gly Gly Ala Ile Val Ser Ile
 435 440 445
 Thr Leu Val Met Met Ser Val Phe Ile Pro Val Ser Phe Met Thr Gly
 450 455 460
 Thr Ser Gly Thr Phe Tyr Arg Gln Phe Gly Leu Thr Met Ala Ile Ala
 465 470 475 480
 Ile Ala Leu Ser Ala Val Asn Ala Leu Thr Leu Ser Pro Ala Leu Cys
 485 490 495
 Ala Ile Leu Leu Lys Pro His Asp Pro Asp Ala Lys Lys Lys Ser Ile
 500 505 510
 Leu Ala Thr Val Ser Met Leu Arg Ser Met Leu Leu Met Thr Gln Tyr
 515 520 525

<210> 10392

<211> 284

<212> PRT

<213> B.fragilis

<400> 10392

Arg Ser His Lys Thr Arg Ser Leu Thr Phe Lys Ser Asn Ser Met Ala
 1 5 10 15
 Asn Leu Phe Ser Val Lys Asp Lys Val Val Val Ile Thr Gly Gly Thr
 20 25 30
 Gly Val Leu Gly Lys Ala Ile Ala Ala His Leu Ala Glu Glu Gly Ala
 35 40 45
 Lys Val Ile Leu Leu Gly Arg Lys Thr Glu Val Gly Asn Lys Ile Val
 50 55 60
 Glu Ser Ile Arg Thr Gln Gly Gly Glu Ala Leu Phe Leu Thr Thr Asp
 65 70 75 80
 Val Leu Asp Arg Lys Ile Leu Glu Gln Asn Leu Ala Asp Ile Leu Lys
 85 90 95
 Ala Tyr Gly Arg Ile Asp Ala Leu Leu Asn Ala Ala Gly Gly Asn Met
 100 105 110
 Pro Gly Ala Thr Ile Ser Pro Thr Gly Asp Ile Phe Asp Leu Lys Ile
 115 120 125
 Asp Glu Phe Gln Lys Val Leu Asp Leu Asn Leu Thr Gly Thr Ile Leu
 130 135 140
 Pro Thr Gln Val Phe Leu Lys Pro Met Val Glu Gln Arg Ala Gly Ala
 145 150 155 160
 Ile Val Asn Phe Ser Ser Met Ala Ala Phe Arg Pro Leu Thr Arg Val
 165 170 175
 Ala Gly Tyr Ala Ala Lys Ala Gly Ile Ser Asn Phe Thr Ala Phe
 180 185 190
 Met Ala Thr Glu Ile Ala Lys Lys Phe Gly Glu Gly Ile Arg Ile Asn
 195 200 205
 Ala Ile Ala Pro Gly Phe Phe Leu Thr Glu Gln Asn Arg Ala Leu Leu
 210 215 220

10392
 284
 PRT
 B.fragilis
 10392

Thr Asn Pro Asp Gly Thr Tyr Thr Gln Arg Gly Gln Asp Val Ile Arg
 225 230 235 240
 Gln Thr Pro Phe Gly Arg Met Gly Arg Ala Glu Glu Leu Cys Gly Thr
 245 250 255
 Ile Gln Tyr Leu Ile Ser Asp Ala Ala Ser Phe Val Thr Gly Thr Val
 260 265 270
 Ala Val Val Asp Gly Gly Phe Asn Ala Phe Ala Met
 275 280

<210> 10393

<211> 394

<212> PRT

<213> B.fragilis

<400> 10393

Thr Ser Leu Lys Ile Glu Tyr Lys Glu Gly Met Lys Ser Lys Ile Val
 1 5 10 15
 Leu Phe Ala Phe Cys Leu Ala Leu Leu Ser Gly Cys Gly Lys Lys Gly
 20 25 30
 Phe Asn Met Gly Gly Thr Pro Glu Cys Ala Val Glu Thr Leu Gln Pro
 35 40 45
 Thr Thr Val Asn Leu Lys Ser Ser Tyr Pro Ala Thr Ile Lys Gly Lys
 50 55 60
 Gln Asp Ile Glu Ile Arg Pro Gln Val Ser Gly Phe Ile Thr Lys Leu
 65 70 75 80
 Asn Ile Asp Glu Gly Ser Met Val Lys Lys Gly Gln Val Leu Phe Val
 85 90 95
 Ile Asp Pro Val Gln Tyr Glu Ser Ala Ala Arg Ala Ala Lys Ala Ala
 100 105 110
 Val Ala Thr Ala Lys Ala Asn Val Ser Thr Gln Glu Ile Thr Val Lys
 115 120 125
 Asn Lys Arg Glu Leu Asn Lys Lys Asn Ile Ile Ser Asp Tyr Asp Leu
 130 135 140
 Glu Met Ala Glu Asn Thr Leu Ala Ser Ala Lys Ala Gln Leu Ala Ser
 145 150 155 160
 Ala Glu Ala Gln Leu Ile Ser Ala Asn Gln Asn Leu Ala Tyr Thr Arg
 165 170 175
 Val Thr Ser Pro Ser Asp Gly Val Ala Gly Thr Ile Pro Tyr Arg Val
 180 185 190
 Gly Ser Leu Val Ser Ala Ser Ser Pro Ser Pro Leu Thr Val Ile Ser
 195 200 205
 Asp Ile Thr Gln Met Tyr Val Tyr Phe Ser Leu Thr Glu Lys Glu Leu
 210 215 220
 Leu Asn Leu Ile Arg Gln Asp Gly Ser Gln Thr Glu Phe Leu Asn Ser
 225 230 235 240
 Phe Pro Ala Val Gln Leu Thr Leu Ala Asp Gly Thr Leu Tyr Ala Asp
 245 250 255
 Ser Gly Lys Ile Glu Thr Val Ser Gly Val Ile Asp Gln Asn Thr Gly
 260 265 270
 Ala Val Ser Met Arg Ala Thr Phe Pro Asn His Gly His Leu Leu Arg
 275 280 285
 Thr Gly Gly Thr Gly Asn Ile Gln Ile Pro Tyr Ser Lys Glu Asn Val
 290 295 300
 Ile Val Ile Pro Gln Lys Ala Thr Tyr Glu Ile Gln Asp Lys Lys Phe
 305 310 315 320
 Val Tyr Leu Leu Gln Pro Asp Asn Thr Val Lys Asn Thr Glu Ile Glu
 325 330 335
 Ile Leu Asn Leu Asn Asp Gly Gln Asn Tyr Val Val Thr Ala Gly Leu
 340 345 350

Lys Ala Gly Asp Lys Ile Val Val Glu Asn Val Ser Thr Leu Lys Asp
 355 360 365
 Gly Ala Thr Ile Lys Pro Leu Thr Gln Gln Glu Ser Ala Glu Arg Phe
 370 375 380
 Lys Ala Ala Leu Glu Glu Arg Lys Asn Gln
 385 390

<210> 10394
 <211> 312
 <212> PRT
 <213> B.fragilis

<400> 10394
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 Val Ile Val Leu Leu Leu Arg Gly Phe Ala Phe Thr Ser Cys Leu Ile
 20 25 30
 Pro Ser Ala Gly Met Glu Asn Ser Leu Phe Gln Gly Glu Arg Ile Leu
 35 40 45
 Val Asn Lys Trp Ser Tyr Gly Leu Arg Val Pro Tyr Met Ser Leu Phe
 50 55 60
 Ser Tyr His Arg Trp Gly Glu Ser Pro Ile His Lys Asp Asp Ile Val
 65 70 75 80
 Val Phe Asn Asn Pro Ala Gly Ile Lys Glu Pro Ile Ile Asp Arg Arg
 85 90 95
 Glu Ile Tyr Ile Ser Arg Cys Ile Gly Val Pro Gly Asp Thr Leu Leu
 100 105 110
 Ile Asp Ser Leu Phe Asn Val Val Asp Arg Ser Thr Gln Leu Gly Pro
 115 120 125
 Asp Arg Lys Gln Leu Tyr Thr Tyr Pro Gln Thr Lys Glu Gln Gln Leu
 130 135 140
 Asp Ser Leu Leu Ser Ile Leu Ser Ile Gly Pro Asn Glu Leu Met Gly
 145 150 155 160
 Gln His Glu Gly Lys Asn Val Arg Ser Phe Ser Arg Tyr Glu Tyr Tyr
 165 170 175
 Leu Leu Asp Gln Ala Met Asn Gly Lys Ser Trp Ile Gln Pro Leu Gln
 180 185 190
 Gln Ser Leu Gln Glu Glu Ala Lys Pro Leu Ile Val Pro Gly Lys Gly
 195 200 205
 Lys Ala Val Arg Val Tyr Pro Trp Asn Arg Thr Leu Leu Arg Asn Thr
 210 215 220
 Leu Val Leu His Glu Gly Lys Gln Ala Glu Ile Arg Asn Asp Thr Leu
 225 230 235 240
 Tyr Ile Glu Gly Arg Pro Ser Gln His Cys Tyr Phe Thr Lys Asp Tyr
 245 250 255
 Tyr Trp Met Ala Ser Asn Asn Ser Val Asn Leu Ser Asp Ser Arg Leu
 260 265 270
 Phe Gly Phe Val Pro Gln Asp His Val Ile Gly Lys Ala Ser Arg Ile
 275 280 285
 Trp Phe Ser Lys Thr Asp His Thr Gly Ile Phe Ser Gly Tyr Arg Trp
 290 295 300
 Glu Arg Phe Phe Gln Pro Val Lys
 305 310

<210> 10395
 <211> 491
 <212> PRT
 <213> B.fragilis

6182 10394 10395

<220>

<221> UNSURE

<222> (338)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10395

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			20					25					30		
Ile	Ile	Gly	Met	Leu	Cys	Ala	Thr	Ala	Leu	Leu	Ser	Ser	Cys	His	Ile
		35					40					45			
Tyr	Lys	Ser	Tyr	Asp	Arg	Pro	Lys	Asp	Ile	Glu	Ala	Ser	Gly	Leu	Tyr
	50					55				60					
Arg	Asp	Thr	Val	Ser	Val	Ala	Asp	Thr	Leu	Val	Ser	Asp	Thr	Val	Asn
65					70					75					80
Phe	Gly	Asn	Leu	Pro	Trp	Arg	Glu	Val	Phe	Thr	Asp	Pro	Gln	Leu	Gln
				85				90						95	
Ala	Leu	Ile	Glu	Gln	Gly	Leu	Thr	His	Asn	Thr	Asp	Leu	Leu	Thr	Ala
			100				105						110		
Ala	Leu	Lys	Val	Lys	Glu	Ala	Gln	Ala	Ser	Leu	Met	Ser	Ala	Arg	Leu
	115						120					125			
Ala	Tyr	Ala	Pro	Ser	Leu	Gly	Leu	Ser	Pro	Gln	Gly	Thr	Ile	Ser	Ser
	130					135					140				
Phe	Asp	Lys	His	Ala	Ala	Thr	Lys	Thr	Tyr	Ser	Leu	Pro	Ala	Thr	Ala
145					150					155					160
Ser	Trp	Glu	Ile	Asp	Leu	Phe	Gly	Lys	Leu	Leu	Asn	Ala	Lys	Arg	Gly
				165				170						175	
Ala	Gln	Val	Thr	Leu	Leu	Gln	Thr	Lys	Ala	Tyr	Arg	Gln	Ala	Val	Gln
			180				185						190		
Thr	Gln	Ile	Ile	Ser	Gly	Ile	Ala	Asn	Thr	Tyr	Tyr	Thr	Leu	Leu	Met
	195						200					205			
Leu	Asp	Arg	Gln	Leu	Asp	Ile	Thr	Glu	Gln	Thr	Ala	Asp	Ile	Met	Lys
	210					215					220				
Arg	Asn	Val	Glu	Thr	Met	Gln	Ala	Met	Lys	Asp	Ala	Ala	Met	Phe	Asn
225					230					235					240
Thr	Thr	Ser	Ala	Gly	Val	Glu	Gln	Ser	Lys	Ala	Ala	Tyr	Ala	Gln	Val
				245					250					255	
Leu	Ala	Ser	Ile	Pro	Ala	Ile	Gln	Lys	Ser	Ile	Arg	Glu	Ala	Glu	Asn
		260					265						270		
Ala	Met	Ser	Met	Leu	Leu	Ala	Gln	Ala	Pro	Gln	Thr	Ile	Lys	Arg	Gly
	275						280					285			
Val	Leu	Glu	Glu	Gln	Gln	Leu	Pro	Glu	Asp	Phe	Ser	Val	Gly	Val	Pro
	290					295					300				
Leu	Gln	Leu	Leu	Ser	Asn	Arg	Pro	Asp	Val	Lys	Ala	Ala	Glu	Met	Ala
305					310					315					320
Leu	Ala	Gly	Thr	Tyr	Tyr	Asn	Ala	Asn	Ser	Thr	Arg	Ala	Ala	Phe	Tyr
				325					330					335	
Pro	Xaa	Ile	Thr	Ile	Ser	Gly	Ser	Ala	Gly	Trp	Thr	Asn	Ser	Ala	Gly
			340					345					350		
Ser	Ala	Ile	Ile	Asn	Pro	Gly	Lys	Leu	Leu	Ala	Ser	Val	Leu	Gly	Ser
	355						360					365			
Leu	Thr	Gln	Pro	Leu	Phe	Tyr	Arg	Gly	Ala	Asn	Ile	Ala	Arg	Leu	Lys
	370					375					380				
Ile	Ala	Lys	Ala	Gln	Gln	Glu	Glu	Ala	Lys	Leu	Ala	Phe	Gln	Gln	Ser
385					390					395					400
Leu	Leu	Asn	Ala	Gly	Ser	Glu	Val	Ser	Asn	Ala	Leu	Tyr	Gln	Tyr	Gln
				405					410				415		
Ser	Ala	Ser	Glu	Lys	Thr	Ala	Ser	Arg	Lys	Leu	Gln	Val	Glu	Ser	Ser

구분	단위	2014년	2015년
1. 총액	천원	1,000,000	1,000,000
2. 예산	천원	1,000,000	1,000,000
3. 실적	천원	1,000,000	1,000,000
4. 결산	천원	1,000,000	1,000,000
5. 결구	천원	1,000,000	1,000,000
6. 결구비율	%	100.0	100.0
7. 결구비율	%	100.0	100.0
8. 결구비율	%	100.0	100.0
9. 결구비율	%	100.0	100.0
10. 결구비율	%	100.0	100.0
11. 결구비율	%	100.0	100.0
12. 결구비율	%	100.0	100.0
13. 결구비율	%	100.0	100.0
14. 결구비율	%	100.0	100.0
15. 결구비율	%	100.0	100.0
16. 결구비율	%	100.0	100.0
17. 결구비율	%	100.0	100.0
18. 결구비율	%	100.0	100.0
19. 결구비율	%	100.0	100.0
20. 결구비율	%	100.0	100.0
21. 결구비율	%	100.0	100.0
22. 결구비율	%	100.0	100.0
23. 결구비율	%	100.0	100.0
24. 결구비율	%	100.0	100.0
25. 결구비율	%	100.0	100.0
26. 결구비율	%	100.0	100.0
27. 결구비율	%	100.0	100.0
28. 결구비율	%	100.0	100.0
29. 결구비율	%	100.0	100.0
30. 결구비율	%	100.0	100.0
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32. 결구비율	%	100.0	100.0
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35. 결구비율	%	100.0	100.0
36. 결구비율	%	100.0	100.0
37. 결구비율	%	100.0	100.0
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45. 결구비율	%	100.0	100.0
46. 결구비율	%	100.0	100.0
47. 결구비율	%	100.0	100.0
48. 결구비율	%	100.0	100.0
49. 결구비율	%	100.0	100.0
50. 결구비율	%	100.0	100.0
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53. 결구비율	%	100.0	100.0
54. 결구비율	%	100.0	100.0
55. 결구비율	%	100.0	100.0
56. 결구비율	%	100.0	100.0
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59. 결구비율	%	100.0	100.0
60. 결구비율	%	100.0	100.0
61. 결구비율	%	100.0	100.0
62. 결구비율	%	100.0	100.0
63. 결구비율	%	100.0	100.0
64. 결구비율	%	100.0	100.0
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67. 결구비율	%	100.0	100.0
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69. 결구비율	%	100.0	100.0
70. 결구비율	%	100.0	100.0
71. 결구비율	%	100.0	100.0
72. 결구비율	%	100.0	100.0
73. 결구비율	%	100.0	100.0
74. 결구비율	%	100.0	100.0
75. 결구비율	%	100.0	100.0
76. 결구비율	%	100.0	100.0
77. 결구비율	%	100.0	100.0
78. 결구비율	%	100.0	100.0
79. 결구비율	%	100.0	100.0
80. 결구비율	%	100.0	100.0
81. 결구비율	%	100.0	100.0
82. 결구비율	%	100.0	100.0
83. 결구비율	%	100.0	100.0
84. 결구비율	%	100.0	100.0
85. 결구비율	%	100.0	100.0
86. 결구비율	%	100.0	100.0
87. 결구비율	%	100.0	100.0
88. 결구비율	%	100.0	100.0
89. 결구비율	%	100.0	100.0
90. 결구비율	%	100.0	100.0
91. 결구비율	%	100.0	100.0
92. 결구비율	%	100.0	100.0
93. 결구비율	%	100.0	100.0
94. 결구비율			

<400> 10396

<210> 10397

<211> 564

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (473)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10397

Lys	Glu	Ile	Asp	Phe	Gly	Asn	Arg	Phe	His	Ala	Ser	Phe	Asn	Ala	Ala	1	5	10	15
Tyr	Asp	Pro	Val	Leu	Lys	Lys	Tyr	Lys	Lys	Arg	Val	Leu	Phe	Phe	Ile	20	25	30	
Gln	Lys	Pro	Val	Leu	Thr	Ile	Gly	Ser	Val	Val	Val	Gly	Phe	Ala	Leu	35	40	45	
Leu	Ile	Phe	Leu	Met	Lys	Val	Thr	Pro	Thr	Gly	Leu	Val	Pro	Asn	Glu	50	55	60	
Asp	Thr	Gly	Thr	Ile	Met	Ala	Val	Val	Asp	Met	Pro	Pro	Gly	Ser	Ser	65	70	75	80
Leu	Glu	Arg	Thr	Gln	Glu	Val	Met	Trp	Gln	Val	Asp	Ser	Leu	Leu	Ala	85	90	95	
Ser	Asp	Pro	Ala	Ile	Glu	Ser	Arg	Thr	Met	Ile	Ala	Gly	Tyr	Ser	Phe	100	105	110	
Ile	Ala	Gly	Gln	Gly	Pro	Ser	Tyr	Gly	Ser	Phe	Ile	Cys	Lys	Met	Lys	115	120	125	
Asn	Trp	Asp	Glu	Arg	Ser	Ile	Ala	Gln	Arg	Ser	Asp	Phe	Val	Ser	Gly	130	135	140	
Met	Leu	Tyr	Leu	Lys	Ala	Arg	Glu	Val	Ile	Lys	Asp	Ala	Arg	Val	Leu	145	150	155	160
Leu	Phe	Ala	Pro	Pro	Met	Ile	Pro	Gly	Tyr	Ser	Val	Ser	Asn	Gly	Phe	165	170	175	
Glu	Met	Asn	Leu	Gln	Asp	Lys	Thr	Gly	Gly	Ser	Leu	Asp	Lys	Phe	Tyr	180	185	190	
Glu	Val	Ala	Gln	Asp	Phe	Ile	Thr	Lys	Leu	Gln	Ala	Arg	Pro	Glu	Ile	195	200	205	
Gln	Ser	Ala	Gln	Thr	Ser	Phe	Asn	Pro	Asn	Phe	Pro	Gln	Tyr	Met	Ile	210	215	220	
Asp	Ile	Asp	Ala	Ala	Ala	Cys	Lys	Lys	Ala	Gly	Leu	Ser	Pro	Ser	Asp	225	230	235	240
Ile	Leu	Thr	Thr	Leu	Gln	Gly	Tyr	Tyr	Gly	Gly	Leu	Tyr	Ser	Ser	Asn	245	250	255	
Phe	Asn	Arg	Phe	Gly	Lys	Met	Tyr	Arg	Val	Met	Ile	Gln	Ala	Asp	Pro	260	265	270	
Asn	Ser	Arg	Thr	Asn	Leu	Glu	Ser	Leu	Asn	Ser	Val	Lys	Val	Arg	Asn	275	280	285	
Gly	Asn	Glu	Met	Ala	Pro	Ile	Thr	Gln	Phe	Met	Ser	Val	Lys	Arg	Ile	290	295	300	
Tyr	Gly	Pro	Asp	Asn	Ile	Lys	Arg	Phe	Asn	Met	Phe	Thr	Ala	Met	Thr	305	310	315	320
Ile	Asn	Gly	Ser	Pro	Ala	Asp	Gly	Tyr	Ser	Ser	Gly	Gln	Ala	Ile	Gln	325	330	335	
Ala	Met	Gln	Glu	Val	Ala	Glu	Gln	Thr	Leu	Pro	Thr	Gly	Tyr	Gly	Tyr	340	345	350	
Glu	Phe	Ser	Gly	Met	Thr	Arg	Glu	Glu	Gln	Ser	Ser	Ser	Gly	Ser	Thr	355	360	365	
Thr	Ala	Met	Ile	Phe	Val	Leu	Cys	Phe	Val	Phe	Val	Tyr	Leu	Leu	Leu	370	375	380	
Ser	Ala	Gln	Tyr	Glu	Ser	Tyr	Ile	Leu	Pro	Phe	Ala	Val	Leu	Leu	Ser	385	390	395	400

Ile Pro Phe Gly Leu Ala Gly Ser Phe Ile Phe Ala His Leu Met Gly
 405 410 415
 Leu Ala Asn Asn Val Leu Pro Ile Leu Gly Ala Ala Thr Asn Asn Ile
 420 425 430
 Tyr Met Gln Ile Ala Leu Ile Met Leu Met Gly Leu Leu Ala Lys Asn
 435 440 445
 Ala Ile Leu Ile Val Glu Phe Ala Leu Asp Arg Arg Lys Met Gly Met
 450 455 460
 Ser Ile Thr Trp Ala Ala Val Leu Xaa Ala Gly Ala Arg Leu Arg Pro
 465 470 475 480
 Ile Leu Met Thr Ser Leu Ala Met Val Val Gly Leu Leu Pro Leu Met
 485 490 495
 Phe Ala Met Gly Val Gly Ala Asn Gly Asn Arg Ala Leu Gly Thr Ala
 500 505 510
 Ala Val Gly Gly Met Phe Ile Gly Met Ile Cys Gln Ile Phe Val Val
 515 520 525
 Pro Ala Leu Phe Val Ile Phe Gln Tyr Leu Gln Glu Lys Val Lys Pro
 530 535 540
 Ile Glu Trp Glu Asp Ile Asp Asn Thr Asp Ala Glu Thr Glu Ile Glu
 545 550 555 560
 Gln Tyr Ala Lys

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 <211> 208
 <212> PRT
 <213> B.fragilis

<400> 10398
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 20 25 30
 Gln Thr Leu Gly Tyr Pro Thr His Glu Val Ala Ser Tyr Asn Phe Met
 35 40 45
 Val Gly Asn Gly Ile Asn Lys Leu Phe Glu Arg Ala Leu Pro Glu Gly
 50 55 60
 Glu Lys Thr Glu Glu Asn Val Leu Arg Val Arg Lys Glu Phe Leu Leu
 65 70 75 80
 His Tyr Asp Arg His Asn Ala Asp Glu Ser Arg Pro Tyr Pro Gly Ile
 85 90 95
 Pro Glu Leu Leu Glu Thr Leu Gln His Lys Gly Tyr Lys Leu Ala Val
 100 105 110
 Ala Ser Asn Lys Tyr Gln Ala Ala Thr Glu Lys Leu Ile Ala His Tyr
 115 120 125
 Phe Pro Gly Ile Arg Phe Val Ala Val Phe Gly Gln Arg Glu Gly Val
 130 135 140
 Lys Val Lys Pro Asp Pro Ala Val Val His Asp Ile Leu Gln Ile Ala
 145 150 155 160
 Asp Val Ser Lys Asp Glu Val Leu Tyr Val Gly Asp Ser Gly Val Asp
 165 170 175
 Met Gln Thr Ala Ile Asn Ser Gly Val Thr Ser Cys Gly Val Thr Gly
 180 185 190
 Gly Phe Arg Pro Arg Thr Gly Leu Gly Ile Arg Leu Ala Gly Ile Leu
 195 200 205

<210> 10399
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 <212> PRT

<213> B.fragilis

<400> 10399

Val	Lys	Val	Glu	Gln	Ile	His	Arg	Lys	Lys	Gly	Lys	Leu	Val	Thr	Ser
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Gly	Met	Gly	Lys	Ala	Gly	Gln	Ile	Ala	Met	Asn	Ile	Ala	Thr	Thr	Phe
			20					25					30		
Cys	Ser	Thr	Gly	Ile	Pro	Ser	Val	Phe	Leu	His	Pro	Ser	Glu	Ala	Gln
		35					40					45			
His	Gly	Asp	Leu	Gly	Ile	Leu	Gln	Glu	Asn	Asp	Leu	Leu	Leu	Ile	
	50					55				60					
Ser	Asn	Ser	Gly	Lys	Thr	Arg	Glu	Ile	Val	Glu	Leu	Thr	Gln	Leu	Ala
65					70					75				80	
His	Asn	Leu	Asn	Pro	Gly	Leu	Lys	Phe	Ile	Val	Ile	Thr	Gly	Asn	Pro
			85						90					95	
Asp	Ser	Pro	Leu	Ala	Ser	Glu	Ser	Asp	Val	Cys	Leu	Ser	Thr	Gly	His
		100						105					110		
Pro	Ala	Glu	Val	Cys	Thr	Leu	Gly	Met	Thr	Pro	Thr	Thr	Ser	Thr	Thr
		115					120						125		
Val	Met	Thr	Val	Ile	Gly	Asp	Ile	Leu	Val	Val	Gln	Thr	Met	Lys	Arg
	130					135					140				
Thr	Glu	Phe	Thr	Ile	Glu	Glu	Tyr	Ser	Lys	Arg	His	His	Gly	Gly	Tyr
145					150					155					160
Leu	Gly	Glu	Lys	Ser	Arg	Lys	Leu	Cys	Val	Lys					
				165						170					

<210> 10400

<211> 1030

<212> PRT

<213> B.fragilis

<400> 10400

Leu	Leu	Thr	Glu	Cys	Leu	Ala	Met	Cys	Ser	Leu	Ala	Thr	Met	Ala	Gln
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His	Asp	Glu	Trp	Lys	Asn	Pro	Glu	Ile	Asn	Ala	Val	Asn	Arg	Ala	Pro
			20					25					30		
Met	His	Thr	Asn	Tyr	Phe	Ala	Tyr	Ser	Ser	Ser	Glu	Glu	Ala	Ala	Lys
		35					40					45			
Ala	Asp	Lys	Glu	Asn	Ser	Ser	Asn	Phe	Met	Thr	Leu	Asn	Gly	Ile	Trp
	50				55						60				
Lys	Phe	Asn	Trp	Val	Lys	Asn	Ala	Asp	Ala	Arg	Pro	Thr	Asp	Phe	Tyr
65					70					75				80	
Arg	Thr	Asp	Tyr	Asn	Asp	Lys	Gly	Trp	Gly	Gln	Met	Lys	Val	Pro	Gly
			85						90					95	
Val	Trp	Glu	Met	Asn	Gly	Tyr	Gly	Asp	Pro	Ile	Tyr	Val	Asn	Val	Gly
		100						105					110		
Tyr	Ala	Trp	Arg	Ser	Gln	Tyr	Lys	Asn	Asn	Pro	Pro	Tyr	Val	Pro	Ile
		115					120						125		
Glu	Asn	Asn	His	Val	Gly	Ser	Tyr	Arg	Lys	Glu	Ile	Ile	Ile	Pro	Ala
	130					135					140				
Glu	Trp	Ser	Glu	Lys	Glu	Ile	Phe	Ala	His	Phe	Gly	Ser	Val	Thr	Ser
145					150					155					160
Asn	Met	Tyr	Leu	Trp	Val	Asn	Gly	Lys	Tyr	Val	Gly	Tyr	Ser	Glu	Asp
			165						170					175	
Ser	Lys	Leu	Glu	Ala	Glu	Phe	Asn	Leu	Thr	Lys	Tyr	Leu	Lys	Pro	Gly
		180						185					190		
Lys	Asn	Leu	Ile	Ala	Phe	Gln	Val	Phe	Arg	Trp	Cys	Asp	Gly	Thr	Tyr
		195					200					205			
Leu	Glu	Asp	Gln	Asp	Phe	Phe	Arg	Tyr	Ser	Gly	Val	Gly	Arg	Asn	Cys

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210	215	220
Tyr Leu Tyr Ser Arg Asn Lys Lys Tyr Ile Gln Asp Ile Arg Val Thr		
225	230	235
Pro Asp Leu Asp Ser Asn Tyr Thr Asn Gly Thr Leu Asn Val Ala Leu		240
	245	250
Asn Leu Asn Gly Ser Gly Thr Val Glu Leu Asn Leu Thr Asp Pro Ala		255
	260	265
Gly Lys Ser Val Ala Thr Ala Gln Val Asn Gly Asn Gly Gln Lys Ser		270
	275	280
Val Val Met Asp Val Ser Asn Pro Glu Lys Trp Thr Ala Glu Thr Pro		285
290	295	300
Asn Leu Tyr Thr Leu Thr Ala Thr Leu Lys Asn Gly Ser Asn Thr Leu		305
310	315	320
Glu Val Ile Pro Val Lys Val Gly Phe Arg Lys Ile Glu Leu Lys Gly		325
	330	335
Gly Gln Ile Leu Val Asn Gly Gln Pro Val Leu Phe Lys Gly Ala Asp		340
	345	350
Arg His Glu Met Asp Pro Asp Gly Gly Tyr Val Val Ser Arg Glu Arg		355
	360	365
Met Leu Gln Asp Ile Leu Arg Met Lys Gln Leu Asn Ile Asn Ala Val		370
	375	380
Arg Thr Cys His Tyr Pro Asp Asp Asn Leu Trp Tyr Asp Leu Cys Asp		385
390	395	400
Gln Tyr Gly Ile Tyr Val Val Ala Glu Ala Asn Ile Glu Ser His Gly		405
	410	415
Met Gly Tyr Gly Lys Glu Thr Leu Ala Lys Asn Pro Ser Tyr Lys Lys		420
	425	430
Ala His Met Glu Arg Asn Gln Arg Asn Val Gln Arg Gly Tyr Asn His		435
	440	445
Pro Ser Ile Ile Phe Trp Ser Leu Gly Asn Glu Ala Gly Tyr Gly Pro		450
	455	460
Asn Phe Glu Gln Cys Tyr Thr Trp Ile Lys Asn Glu Asp Lys Thr Arg		465
	470	475
Ala Val Gln Tyr Glu Gln Ala Gly Thr Asn Glu Phe Thr Asp Ile Phe		480
	485	490
Cys Pro Met Tyr Tyr Asp Tyr Asp Ala Cys Lys Lys Tyr Ser Glu Gly		495
	500	505
Asn Ile Asp Lys Pro Leu Ile Gln Cys Glu Tyr Ala His Ala Met Gly		510
	515	520
Asn Ser Gln Gly Gly Phe Lys Glu Tyr Trp Asp Leu Ile Arg Lys Tyr		525
	530	535
Pro Lys Tyr Gln Gly Gly Phe Ile Trp Asp Phe Val Asp Gln Ser Asn		540
	545	550
His Trp Lys Asn Lys Asp Gly Ile Asp Ile Tyr Gly Tyr Gly Gly Asp		555
	560	565
Phe Asn Lys Tyr Asp Ala Ser Asp Asn Asn Phe Asn Asp Asn Gly Leu		570
	575	580
Ile Ser Pro Asp Arg Arg Pro Asn Pro His Ala His Glu Val Gly Tyr		585
	590	595
Phe Tyr Gln Ser Ile Trp Thr Thr Pro Gly Asp Leu Ser Lys Gly Glu		600
	605	610
Ile Lys Val Tyr Asn Glu Asn Phe Phe Arg Asp Leu Ser Ala Tyr Tyr		615
	620	625
Met Glu Trp Gln Leu Ala Asn Gly Glu Val Met Gln Thr Gly Val		630
	635	640
Val Gln Asp Leu Asn Val Ala Pro Gln Gln Thr Ala Thr Leu Lys Leu		645
	650	655
Asn Leu Asn Thr Glu Lys Val Cys Pro Cys Lys Glu Leu Leu Leu Asn		660
	665	670
	675	680
		685

Val Thr Tyr Lys Leu Lys Ala Ala Glu Thr Leu Met Pro Ala Gly Ser
 690 695 700
 Thr Val Ala Tyr Asp Gln Leu Thr Ile Arg Pro Tyr Thr Ala Lys Ala
 705 710 715 720
 Leu Glu Leu Lys Asn Gln Lys Ala Ser Asn Leu Asp Ile Val Val Pro
 725 730 735
 Val Ile Lys Asp Asn Asp His Asn Tyr Leu Ile Val Glu Gly Glu Asn
 740 745 750
 Phe Ile Ile Glu Phe Asn Lys His Asn Gly Tyr Leu Ser Arg Tyr Glu
 755 760 765
 Ala Asp Gly Met Gln Leu Leu Asn Pro Gly Ala Gln Leu Thr Pro Asn
 770 775 780
 Phe Trp Arg Ala Pro Thr Asp Asn Asp Tyr Gly Ala Gly Leu Gln His
 785 790 795 800
 Arg Tyr Ala Val Trp Lys Asn Pro Gly Leu Lys Leu Thr Ser Leu Lys
 805 810 815
 Gln Ser Ile Glu Asn Glu Gln Ala Ile Val Gln Ala Glu Tyr Glu Met
 820 825 830
 Lys Ala Val Lys Gly Lys Leu Phe Leu Thr Tyr Val Ile Asn Asn Glu
 835 840 845
 Gly Ala Val Lys Val Thr Gln Lys Met Glu Ala Gly Lys Glu Glu Lys
 850 855 860
 Val Ser Asp Met Phe Arg Phe Gly Met Gln Met Gln Met Pro Glu Asn
 865 870 875 880
 Phe Asn Glu Val Glu Tyr Tyr Gly Arg Gly Pro Val Glu Asn Tyr Ala
 885 890 895
 Asp Arg Asn His Ser Thr Leu Ile Gly Lys Tyr Arg Gln Thr Val Ala
 900 905 910
 Glu Gln Phe Tyr Pro Tyr Ile Arg Pro Gln Glu Thr Gly Thr Lys Thr
 915 920 925
 Asp Leu Arg Trp Trp Arg Val Leu Asn Ile Ser Gly Asn Gly Leu Gln
 930 935 940
 Phe Val Gly Asp Ala Pro Phe Ser Ala Ser Ala Leu Asn Tyr Ser Ile
 945 950 955 960
 Glu Ser Leu Asp Asp Gly Val Gln Lys Asp Gln Arg His Ser Pro Glu
 965 970 975
 Val Ala Lys Ala Pro Phe Thr Asn Leu Cys Ile Asp Lys Val Gln Met
 980 985 990
 Gly Leu Gly Cys Val Asn Ser Trp Gly Thr Leu Pro Leu Glu Lys Tyr
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 Arg Val Pro Tyr Gln Asp Tyr Glu Phe Ser Phe Ile Leu Thr Pro Val
 1010 1015 1020
 Arg His Lys Val Asn Met
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<213> B.fragilis

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 Ile Thr Phe Val Glu His Ile Asn Val Leu Leu Thr Met Glu Gln Leu
 20 25 30
 Leu His Tyr Val Trp Lys His Lys Ile Phe Pro Leu His Glu Leu Gln
 35 40 45
 Thr Thr Thr Gly Leu Pro Val Glu Val Ile Asp Thr Gly Leu Pro Asn
 50 55 60

Ser Asp Ser Gly Pro Asp Phe Phe Asn Ala Lys Leu Lys Ile Gly Gly
 65 70 75 80
 Thr Leu Trp Val Gly Asn Val Glu Ile His Thr Ala Ser Ser Asp Trp
 85 90 95
 Phe Arg His Gly His Asp Arg Asp Ile Ala Tyr Asp Ser Val Ile Leu
 100 105 110
 His Ile Val Thr Glu Ile Asp Cys Glu Ile Tyr Arg Ser Asn Gly Glu
 115 120 125
 Pro Val Pro Gln Leu Arg Leu Pro Cys Pro Glu Gln Val Lys Glu His
 130 135 140
 Tyr Asp Glu Leu Cys Arg Ala Asp Ile His Pro Cys Tyr Ser Ile
 145 150 155 160
 Leu Glu Thr Leu Pro Lys Leu Thr Ile His Ser Trp Leu Thr Ala Leu
 165 170 175
 Gln Thr Glu Arg Phe Asp Gln Lys Asn Arg Thr Ile Thr Arg Arg Leu
 180 185 190
 Gln Arg Cys Asn Gln His Trp Glu Asp Ala Phe Phe Ile Thr Leu Ala
 195 200 205
 Arg Asn Phe Gly Phe Gly Leu Asn Gly Asp Ala Phe Glu Thr Trp Ala
 210 215 220
 Asn Leu Leu Ser Phe Arg Ala Ile Asp Lys His Arg Asp Asp Leu Thr
 225 230 235 240
 Gln Val Glu Ala Phe Phe Phe Gly Gln Ala Gly Leu Leu Glu Gly Glu
 245 250 255
 Ser Ala Asp Asp Tyr Phe Ser Trp Met Gln Lys Glu Phe Arg Tyr Leu
 260 265 270
 Gln His Lys Phe Glu Leu Pro Pro Val Met Asn Pro Ser Leu Trp Arg
 275 280 285
 Phe Leu Arg Leu Arg Pro Gly Asn Phe Pro His Val Arg Leu Ala Gln
 290 295 300
 Leu Ala Ser Leu Tyr Tyr Arg Glu His Ser Leu Phe Ser Arg Val Met
 305 310 315 320
 Glu Ala Glu Thr Leu Lys Asp Leu Lys Gln Ile Phe Ala Gly His Thr
 325 330 335
 Ser Ala Tyr Trp Glu Glu His Phe Met Phe Gly Lys Ser Ser Pro Arg
 340 345 350
 Arg Glu Lys Ser Ile Gly Ala Gly Ala Lys Glu Leu Ile Ile Ile Asn
 355 360 365
 Thr Val Ile Pro Phe Leu Tyr Ala Tyr Gly Leu His Lys Ala Asp Glu
 370 375 380
 Arg Leu Cys Glu Arg Ala Ser Leu Leu Glu Glu Leu Lys Ala Glu
 385 390 395 400
 Asn Asn Tyr Val Thr Arg Met Trp Ser Gly Ala Gly Ile Pro Val Gln
 405 410 415
 Thr Ala Ala Asp Ser Gln Ala Leu Leu Gln Leu Gln Lys Glu Tyr Cys
 420 425 430
 Asp Lys Lys Lys Cys Leu Tyr Cys Arg Phe Gly Tyr Glu Tyr Leu Arg
 435 440 445
 His Lys
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<213> B.fragilis

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Glu Leu Phe Arg Leu Thr Val Val Gly Cys Asn Val Ser Thr Ala His
 1 5 10 15

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<213> B.fragilis
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[illegible]

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Thr Thr Ile Ser Phe Ile Val Phe Leu Cys Pro Gln Pro Asn Leu Ile

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 Val Arg Met Lys Gln Leu Ser Thr Arg Ala Glu Met Gln Tyr Asn Ile
 20 25 30
 His Thr Leu Ser Asn Gly Leu Arg Ile Ile His Glu Pro Ser Ser Ser
 35 40 45
 Lys Val Ala Tyr Cys Gly Phe Ala Val Asp Ala Gly Thr Arg Asp Glu
 50 55 60
 Ala Glu Asn Glu Gln Gly Met Ala His Phe Val Glu His Leu Ile Phe
 65 70 75 80
 Lys Gly Thr Arg Lys Arg Lys Ala Trp His Ile Leu Asn Arg Met Glu
 85 90 95
 Asn Val Gly Gly Asp Leu Asn Ala Tyr Thr Asn Lys Glu Glu Thr Val
 100 105 110
 Ile Tyr Ser Ala Phe Leu Thr Glu His Phe Gly Arg Ala Leu Glu Leu
 115 120 125
 Leu Gly Gly Tyr Arg Phe Pro Phe His Leu Ser Ala Glu Arg Asn Arg
 130 135 140
 Lys Arg Asp Arg Gly Asp Ile Asp Glu Ile Gln Ser Tyr Glu Asp Thr
 145 150 155 160
 Pro Ser Glu Leu Ile Phe Asp Asp Phe Glu Asp Met Ile Phe Arg Asn
 165 170 175
 His Pro Leu Gly Arg Asn Ile Leu Gly Arg Pro Asp Leu Leu Lys Lys
 180 185 190
 Phe Arg Ser Glu Asp Ala Met Ala Phe Thr Ser Arg Phe Tyr Gln Pro
 195 200 205
 Ser Asn Met Val Phe Phe Val Leu Gly Asp Phe Asn Phe Gln Lys Ile
 210 215 220
 Val Arg Gln Val Glu Lys Leu Leu Val Asp Leu Pro Leu Val Thr Val
 225 230 235 240
 Glu Asn Gln Arg Thr Ile Pro Pro Leu Tyr Val Pro Glu Gln Leu Val
 245 250 255
 Val His Lys Glu Thr His Gln Ala His Val Met Ile Gly Ser Arg Gly
 260 265 270
 Tyr Asn Ala Tyr Asp Asp Lys Arg Thr Ala Leu Tyr Leu Leu Asn Asn
 275 280 285
 Ile Leu Gly Gly Pro Gly Met Asn Ser Arg Leu Asn Val Ser Leu Arg
 290 295 300
 Glu Arg Arg Gly Leu Val Tyr Thr Val Glu Ser Asn Leu Thr Ser Tyr
 305 310 315 320
 Thr Asp Thr Gly Ala Phe Cys Ile Tyr Phe Gly Thr Asp Pro Glu Asp
 325 330 335
 Val Asp Thr Cys Leu Lys Leu Thr Tyr Lys Glu Leu Lys Arg Met Arg
 340 345 350
 Asp Val Lys Met Thr Ser Ser Gln Leu Met Ala Ala Lys Lys Gln Leu
 355 360 365
 Ile Gly Gln Ile Gly Val Ala Ser Asp Asn Asn Glu Asn Asn Ala Leu
 370 375 380
 Gly Met Ala Lys Thr Phe Leu His Tyr Asn Lys Tyr Glu Ser Ser Glu
 385 390 395 400
 Ser Val Phe Arg Arg Ile Glu Ala Leu Thr Ala Glu Gly Leu Leu Glu
 405 410 415
 Val Ala Asn Glu Met Phe Ala Glu Glu Tyr Leu Ser Thr Leu Ile Tyr
 420 425 430
 Arg

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<212> PRT

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Lys	Ile	Asn	Ile	Met	Arg	Lys	Ala	Thr	Arg	Thr	Gln	Trp	Ile	Lys	Cys
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Ser	Ile	Ala	Ile	Leu	Leu	Tyr	Leu	Ile	Phe	Leu	Ile	Trp	Val	Lys	Ser
			20					25					30		
Trp	Trp	Gly	Leu	Ile	Val	Val	Pro	Phe	Ile	Phe	Asp	Ile	Tyr	Ile	Thr
		35					40					45			
Lys	Lys	Ile	Pro	Trp	Ser	Phe	Trp	Lys	Lys	Ser	Lys	Asn	Pro	Thr	Val
	50					55					60				
Arg	Ser	Val	Met	Ser	Trp	Val	Asp	Ala	Ile	Val	Phe	Ala	Leu	Val	Ala
65					70					75					80
Val	Tyr	Phe	Val	Asn	Ile	Tyr	Val	Phe	Gln	Asn	Tyr	Gln	Ile	Pro	Ser
				85					90					95	
Ser	Ser	Leu	Glu	Lys	Ser	Leu	Leu	Val	Gly	Asp	Phe	Leu	Tyr	Val	Ser
			100					105						110	
Lys	Met	Ser	Tyr	Gly	Pro	Arg	Val	Pro	Asn	Thr	Pro	Leu	Ser	Met	Pro
		115					120							125	
Leu	Ala	Gln	His	Thr	Leu	Pro	Ile	Leu	Asn	Thr	Lys	Ser	Tyr	Ile	Glu
	130						135					140			
Trp	Pro	Gln	Trp	Lys	Tyr	Lys	Arg	Val	Pro	Gly	Phe	Gly	Lys	Val	Lys
145					150					155					160
Leu	Asn	Asp	Ile	Val	Val	Phe	Asn	Phe	Pro	Ala	Gly	Asp	Thr	Val	Ala
				165					170					175	
Leu	Asn	Phe	Gln	Asp	Ala	Asp	Phe	Tyr	Thr	Leu	Ala	Tyr	Asn	Ile	Gly
			180					185						190	
Lys	Gln	Ile	Tyr	Pro	Asn	Pro	Ile	Asp	Met	Asp	Ser	Leu	Thr	Arg	Glu
		195					200					205			
Gln	Gln	Lys	Thr	Val	Tyr	Asp	Leu	Tyr	Tyr	Asn	Ala	Gly	Arg	Lys	Glu
	210					215					220				
Ile	Leu	Ser	Asn	Pro	Gln	Arg	Tyr	Gly	Lys	Val	Val	Thr	Arg	Pro	Val
225					230					235					240
Asp	Arg	Arg	Glu	Asn	Tyr	Val	Lys	Arg	Cys	Val	Gly	Leu	Pro	Gly	Asp
				245					250					255	
Thr	Leu	Gln	Ile	Ile	Asn	Gly	Gln	Val	Met	Ile	Asp	Gly	Lys	Ala	Ile
			260					265						270	
Glu	Asn	Pro	Glu	Asn	Leu	Gln	Phe	Asn	Tyr	Phe	Val	Gln	Thr	Thr	Gly
		275					280					285			
Pro	Tyr	Ile	Thr	Glu	Glu	Met	Phe	Arg	Glu	Leu	Gly	Ile	Ser	Lys	Ala
	290					295					300				
Asp	Gln	Arg	Leu	Thr	Pro	Glu	Gly	Ala	Ser	Tyr	Glu	Glu	Gly	Leu	Ile
305					310					315					320
Glu	Leu	Gly	Leu	Asp	Gly	Arg	Asn	Ala	Gln	Gly	Gly	Leu	Asn	Pro	Val
				325					330					335	
Tyr	His	Leu	Pro	Leu	Thr	Lys	Lys	Met	Tyr	Asp	Thr	Leu	Ser	Gly	Asn
			340					345						350	
Lys	Lys	Leu	Val	Gly	Lys	Ile	Val	Ile	Glu	Pro	Glu	Glu	Tyr	Ser	Gly
		355					360					365			
Glu	Val	Tyr	Pro	Leu	Asn	Leu	Asn	Thr	His	Trp	Asn	Arg	Ser	Asp	Tyr
	370					375					380				
Gly	Pro	Ile	Trp	Ile	Pro	Ala	Lys	Gly	Ala	Thr	Ile	Thr	Leu	Thr	Pro
385					390					395					400
Asp	Asn	Leu	Pro	Ile	Tyr	Glu	Arg	Cys	Ile	Thr	Ala	Tyr	Glu	Gly	Asn
				405					410					415	
Lys	Leu	Glu	Gln	Lys	Glu	Asp	Gly	Ile	Tyr	Ile	Asn	Gly	Val	Lys	Thr
			420					425					430		
Asn	Gln	Tyr	Thr	Phe	Gln	Met	Asp	Tyr	Tyr	Trp	Met	Met	Gly	Asp	Asn
		435					440					445			

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Arg His Asn Ser Ala Asp Ser Arg Tyr Trp Gly Phe Val Pro Glu Asp
 450 455 460
 His Val Val Gly Lys Pro Ile Val Val Trp Leu Ser Leu Asp Lys Asp
 465 470 475 480
 Arg Asn Trp Phe Asp Gly Lys Ile Arg Trp Asn Arg Ile Phe Lys Trp
 485 490 495
 Val Asp

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 Leu Ile Leu Ile Met Val Trp Asp Glu Asn Gln Lys Gly Glu Pro Gly
 35 40 45
 Lys Arg Arg Lys Gly Leu Trp Val Leu Pro Leu Ile Glu Lys Glu Thr
 50 55 60
 Asp Ile Ser Leu Arg Val Phe Asp Leu Arg Pro Arg Pro Trp Ala Arg
 65 70 75 80
 Asn Tyr Pro Gly Phe Tyr Glu Asp Lys Arg Leu Leu Asp Arg Ser Ile
 85 90 95
 Leu Arg Ala Ile Trp Thr Arg Thr Phe Phe Asp Ile Asn Val Ala Cys
 100 105 110

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 Leu Tyr His Val Thr Arg Ile Pro Ile Phe Ala Ile Ser Ala Phe Arg
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 Gln Ile Gln Thr Met Tyr Lys Asn Leu Phe Asn Leu Leu Thr Ile Leu
 20 25 30
 Leu Ile Leu Pro Ser Cys Thr Asp Met Ser Pro Asn Ile Ser Val Val
 35 40 45
 Cys Glu Glu Asn Asn Ile Gly Asn Cys Ile Leu Lys Trp Glu Thr Thr
 50 55 60
 Pro Leu Ile Lys Gly Gln Val Lys Val Tyr Thr Ser Asp Asn Pro Glu
 65 70 75 80
 Phe Ile Pro Glu Asp Asn Pro Val Ala Met Ala Asn Ile Ser Asp Ala
 85 90 95
 Arg Met Thr Ile Val Thr Asn Asp Pro Ser Arg Arg Ser Tyr Tyr Met
 100 105 110
 Leu Val Phe Asn Asp Lys Tyr Cys Val Lys Val Ala Pro Arg Asn Val
 115 120 125
 Asn Met Pro Gly Ile Gln Asn Phe Arg Asp Leu Gly Gly Tyr Lys Ser
 130 135 140
 Ala Thr Gly Lys His Val Arg Trp Gly Lys Leu Tyr Arg Ser Ala Gln
 145 150 155 160
 Ile Asp Ser Leu His Cys Phe Ala Leu Arg Lys Leu Gln Asn Leu Gly
 165 170 175
 Ile Lys Thr Ile Leu Asp Leu Arg Ser Glu Ser Glu Leu His Asn Thr

Pro	Pro	Leu	Gln	Lys	Gly	Phe	Asn	Val	Val	His	Ile	Pro	Ile	Asn	Thr
		195					200						205		
Gly	Asp	Met	Glu	His	Ile	Leu	His	Gly	Ile	Gln	Gln	Glu	Lys	Ile	Lys
	210					215					220				
Thr	Asp	Thr	Ile	Tyr	His	Met	Val	Glu	Ala	Met	Asn	Arg	Glu	Leu	Val
225					230					235					240
Ala	Lys	Tyr	Gln	Lys	Glu	Tyr	Lys	Glu	Ile	Phe	Asp	Ile	Leu	Leu	Asp
				245					250					255	
Lys	Asn	Ser	Tyr	Pro	Val	Val	Ile	His	Cys	Ser	Ser	Gly	Lys	Gly	Arg
		260						265					270		
Thr	Gly	Ile	Val	Ser	Ala	Leu	Ile	Leu	Ala	Ser	Leu	Asp	Val	Asn	Ala
	275						280						285		
Asp	Ile	Ile	Met	Glu	Asp	Tyr	Arg	Leu	Ser	Asn	Asp	Tyr	Phe	Asn	Ile
	290					295					300				
Pro	Lys	Ala	Ser	Lys	Tyr	Ala	Tyr	Asn	Leu	Pro	Val	Asn	Ser	Gln	Glu
305					310						315				320
Ala	Ile	Thr	Thr	Leu	Phe	Ser	Ala	Lys	Glu	Asp	Phe	Leu	Asn	Ala	Ala
				325					330					335	
Lys	Asp	Glu	Ile	Glu	Arg	Lys	Tyr	Gly	Asp	Val	Pro	Thr	Tyr	Leu	Arg
		340						345					350		
Lys	Ala	Ile	Gly	Leu	Gln	Ser	Glu	Asp	Ile	His	Arg	Leu	Arg	Thr	Ile
	355						360						365		
Leu	Leu	Glu													
	370														

<210> 10408

<211> 214

<212> PRT

<213> B.fragilis

<400> 10408

Thr	Met	Lys	Val	Lys	Lys	Ile	Ser	Ile	Ala	Asn	Val	Glu	Val	Asp	Ala
1				5					10					15	
Leu	Pro	Glu	Leu	Leu	Asp	Lys	Glu	Lys	Ile	Gly	Phe	Gln	Pro	Ile	Asp
		20						25					30		
Asn	Val	Asn	Trp	Glu	Ala	Tyr	Pro	Tyr	Arg	Pro	Lys	Val	Glu	Phe	Arg
		35				40						45			
Ile	Ala	His	Ser	Asp	Asp	Ala	Val	Leu	Leu	His	Phe	Asn	Val	Lys	Glu
	50					55					60				
Ala	Ser	Val	Arg	Ala	Lys	Tyr	Gly	Glu	Asp	Asp	Gly	Ser	Val	Trp	Thr
65					70					75					80
Asp	Ser	Cys	Val	Glu	Phe	Phe	Ser	Val	Pro	Thr	Gly	Asp	Gly	Ile	Tyr
			85						90					95	
Tyr	Asn	Ile	Glu	Cys	Asn	Cys	Ile	Gly	Thr	Ile	Leu	Ile	Gly	Ala	Gly
		100						105					110		
Ala	Glu	Arg	Asn	Asn	Arg	Glu	Arg	Ala	Ser	Arg	Glu	Val	Thr	Asp	Gln
		115					120					125			
Val	Lys	Arg	Trp	Ala	Ser	Leu	Gly	Arg	Gln	Pro	Phe	Asp	Glu	Arg	Ile
	130					135					140				
Gly	Glu	Cys	Asn	Trp	Glu	Val	Ala	Leu	Val	Ile	Pro	Tyr	Thr	Ala	Phe
145					150					155					160
Phe	Lys	His	His	Ile	Thr	Ser	Leu	Asp	Gly	Lys	Thr	Ile	Thr	Ala	Asn
				165					170					175	
Phe	Tyr	Lys	Cys	Gly	Asp	Glu	Leu	Gln	Thr	Pro	His	Phe	Leu	Ser	Trp
		180						185					190		
Asn	Pro	Ile	Lys	Ile	Glu	Lys	Pro	Asp	Phe	His	Arg	Pro	Asp	Phe	Phe
	195						200						205		
Gly	Thr	Leu	Glu	Phe	Glu										

10408
 214
 PRT
 B.fragilis
 10408

210

<210> 10409

<211> 485

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (467), (474), (476), (481), (483)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10409

Cys	Val	Ser	Leu	His	Pro	Lys	Ile	Lys	Ile	Tyr	Arg	Asp	Leu	Met	Lys	1	5	10	15
Thr	Phe	Glu	Glu	Leu	Gly	Val	Ser	Pro	Glu	Ile	Arg	Lys	Ala	Ile	Glu	20	25	30	
Glu	Met	Gly	Tyr	Glu	Asn	Pro	Met	Pro	Val	Gln	Glu	Glu	Val	Ile	Pro	35	40	45	
Tyr	Leu	Leu	Gly	Glu	Asn	Asn	Asp	Val	Val	Ala	Leu	Ala	Gln	Thr	Gly	50	55	60	
Thr	Gly	Lys	Thr	Ala	Ala	Phe	Gly	Leu	Pro	Leu	Ile	Gln	Lys	Ile	Asn	65	70	75	80
Val	Lys	Asn	Arg	Ile	Pro	Gln	Ser	Leu	Val	Leu	Cys	Pro	Thr	Arg	Glu	85	90	95	
Leu	Cys	Leu	Gln	Ile	Ala	Gly	Asp	Leu	Asn	Asp	Tyr	Ser	Lys	Tyr	Ile	100	105	110	
Asp	Gly	Leu	Lys	Val	Leu	Pro	Val	Tyr	Gly	Gly	Ser	Ser	Ile	Asp	Ser	115	120	125	
Gln	Ile	Arg	Ser	Leu	Lys	Arg	Gly	Val	His	Ile	Ile	Val	Ala	Thr	Pro	130	135	140	
Gly	Arg	Leu	Leu	Asp	Leu	Met	Glu	Arg	Lys	Thr	Val	Ser	Leu	Ala	Thr	145	150	155	160
Val	Thr	Asn	Val	Val	Met	Asp	Glu	Ala	Asp	Glu	Met	Leu	Asn	Met	Gly	165	170	175	
Phe	Thr	Asp	Ser	Ile	Asn	Ala	Ile	Leu	Ala	Asp	Val	Pro	Gln	Glu	Arg	180	185	190	
Asn	Thr	Leu	Phe	Ser	Ala	Thr	Met	Ser	Pro	Glu	Ile	Ala	Arg	Ile		195	200	205	
Ser	Lys	Asn	Tyr	Leu	His	Asn	Ala	Lys	Glu	Ile	Thr	Ile	Gly	Arg	Lys	210	215	220	
Asn	Glu	Ser	Thr	Ser	Asn	Val	Lys	His	Val	Val	Tyr	Thr	Val	His	Ala	225	230	235	240
Lys	Asp	Lys	Tyr	Ala	Ala	Leu	Lys	Arg	Ile	Val	Asp	Tyr	Tyr	Pro	Gln	245	250	255	
Ile	Tyr	Gly	Ile	Ile	Phe	Cys	Arg	Thr	Arg	Lys	Glu	Thr	Gln	Glu	Ile	260	265	270	
Ala	Asp	Lys	Leu	Met	Gln	Glu	Gly	Tyr	Asn	Ala	Asp	Ser	Leu	His	Gly	275	280	285	
Glu	Leu	Ser	Gln	Ala	Gln	Arg	Asp	Thr	Val	Met	Gln	Lys	Phe	Arg	Ile	290	295	300	
Arg	Asn	Ile	Gln	Ile	Leu	Val	Ala	Thr	Asp	Val	Ala	Ala	Arg	Gly	Leu	305	310	315	320
Asp	Val	Asp	Asp	Leu	Thr	His	Val	Ile	Asn	Tyr	Gly	Leu	Pro	Asp	Asp	325	330	335	
Thr	Glu	Ser	Tyr	Thr	His	Arg	Ser	Gly	Arg	Thr	Gly	Arg	Ala	Gly	Lys	340	345	350	
Thr	Gly	Thr	Ser	Ile	Ala	Ile	Ile	Asn	Leu	Arg	Glu	Lys	Gly	Lys	Met	355	360	365	

10409
 485
 PRT
 B.fragilis
 UNSURE
 (467), (474), (476), (481), (483)
 Identity of amino acid sequences at the above locations are unknown.
 10409

Arg Glu Ile Glu Arg Ile Ile Gly Lys Lys Phe Ile Ala Gly Glu Met
 370 375 380
 Pro Thr Gly Lys Gln Ile Cys Glu Lys Gln Leu Leu Lys Val Ile Asp
 385 390 395 400
 Asp Leu Glu Lys Val Lys Val Asn Glu Glu Asp Ile Asn Asp Phe Met
 405 410 415
 Pro Glu Ile Tyr Arg Lys Leu Glu Trp Leu Ser Lys Glu Asp Leu Ile
 420 425 430
 Lys Arg Met Val Ser His Glu Phe Asn Arg Phe Val Asp Tyr Tyr Arg
 435 440 445
 Asn Arg Glu Glu Ile Glu Val Pro Thr Asp Ser Arg Arg Ser Ser Pro
 450 455 460
 Arg Gly Xaa Met Pro Thr Leu Phe Ser Xaa Phe Xaa Thr Leu Ser Ile
 465 470 475 480
 Xaa Pro Xaa Pro Leu
 485

<210> 10410
 <211> 144
 <212> PRT
 <213> B.fragilis

<400> 10410
 Gln Arg Gly Pro Phe Tyr Phe Tyr Ser Pro Phe Glu Thr Gly Gly Lys
 1 5 10 15
 Pro Met Lys Arg Leu Val Val Leu Leu Phe Gly Leu Val Gly Ala Ala
 20 25 30
 Leu Phe Met Ser Ala Ala Asn Ser Gly Asp Arg Val Leu Arg Asp Ser
 35 40 45
 Ile Phe His Val Tyr Arg Ser Met Pro Ala Asp Thr Thr Arg Thr Val
 50 55 60
 Phe Ala Lys Glu Ala Ala Met Gly His Val Lys Glu Ser Trp Ala Leu
 65 70 75 80
 Glu Leu Leu Asp Ser Ala Leu Val Phe Ala Arg Glu Ile Lys Asp Val
 85 90 95
 Glu Gly Glu Leu Glu Leu Gln Tyr Gly Ile Phe Arg Tyr Tyr Thr Phe
 100 105 110
 Arg Met Asp Gly Glu Asn Met Glu Lys Thr Cys Ala Thr Leu Arg Glu
 115 120 125
 Ala Cys Tyr Arg Tyr Val Phe Thr Thr Gly Leu Glu Gly Ala Ala Leu
 130 135 140

<210> 10411
 <211> 375
 <212> PRT
 <213> B.fragilis

<400> 10411
 Val Ile Phe Ala Asn Leu Thr Gln Asn Ile Lys Met Lys Gln Leu Ile
 1 5 10 15
 Leu Ser Gly Met Phe Val Val Cys Gly Leu Ser Val Ser Leu Ala Ser
 20 25 30
 Glu Lys Trp Ala Val Asp Ser Ile Asn Trp His Arg Ala Glu Gln Lys
 35 40 45
 Met Gln Glu Lys Asp Phe Gln Asp Ala Ala Leu Thr Tyr Lys Glu Leu
 50 55 60
 Ile Thr Lys Gly Asp Ser Leu Phe Val Asp Tyr Ala Gly Arg His Val
 65 70 75 80
 Glu Asp Met Arg Glu Gln Tyr Ser Ile Asp Glu Leu Asp Leu Gln Asn

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<210> 10412
<211> 124
<212> PRT
<213> B.fragilis
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Pro	Arg	Asn	Lys	Tyr	Ala	Phe	Ile	Val	Val	Asn	Tyr	Ala	Asn	Gly	Asp
1				5					10					15	
Met	Val	Gly	His	Thr	Gly	Ile	Tyr	Glu	Ala	Ile	Glu	Lys	Ala	Val	Val
			20					25					30		
Ala	Val	Asp	Ala	Cys	Val	Lys	Asp	Thr	Ile	Glu	Ala	Ala	Lys	Ala	Gln
			35				40					45			
Gly	Tyr	Glu	Ala	Ile	Ile	Ile	Ala	Asp	His	Gly	Asn	Ala	Asp	His	Ala
	50					55				60					
Leu	Asn	Glu	Asp	Gly	Thr	Pro	Asn	Thr	Ala	His	Ser	Leu	Asn	Pro	Val
65					70					75				80	
Pro	Cys	Val	Tyr	Val	Thr	Glu	Asn	Lys	Glu	Ala	Lys	Val	Ala	Asp	Gly
				85					90					95	
Arg	Leu	Ala	Asp	Val	Ala	Pro	Thr	Ile	Leu	His	Ile	Leu	Asp	Met	Val
			100					105					110		
Gln	Pro	Ala	Glu	Met	Thr	Gly	Cys	Asn	Leu	Ile	Lys				

115

120

<210> 10413
 <211> 186
 <212> PRT
 <213> B.fragilis

<400> 10413

Asn	Lys	Leu	Ser	Asn	Pro	Met	His	Thr	Thr	Ile	Leu	Glu	Thr	Glu	Arg
1			5						10					15	
Leu	Leu	Leu	Arg	Pro	Phe	Arg	Glu	Thr	Asp	Leu	Gln	Glu	Leu	Phe	Glu
			20					25					30		
Cys	Cys	Gln	Asn	Pro	Asn	Leu	Gly	Asn	Asn	Ala	Gly	Trp	Glu	Pro	His
		35					40					45			
Lys	Asn	Ile	Glu	Asp	Ser	Lys	Glu	Val	Leu	His	Thr	Val	Phe	Met	Gly
	50					55					60				
Asn	Glu	Gly	Val	Phe	Ala	Ile	Ile	Leu	Lys	Glu	Asp	Asn	Ser	Leu	Val
65					70					75				80	
Gly	Ser	Ile	Gly	Ile	Ile	Thr	Asp	Pro	Lys	Arg	Glu	Asn	Thr	Arg	Thr
				85					90					95	
Arg	Met	Leu	Gly	Tyr	Trp	Leu	Lys	Glu	Cys	His	Trp	Gly	Lys	Gly	Met
			100					105					110		
Ala	Ser	Glu	Ala	Thr	Arg	Thr	Ile	Leu	Asp	Tyr	Gly	Phe	Asn	Val	Leu
		115					120					125			
Gly	Leu	His	Leu	Ile	Ser	Ala	Asn	Cys	Tyr	Pro	His	Asn	Thr	Arg	Ser
	130					135					140				
Arg	Leu	Leu	Leu	Glu	Arg	Asn	Gly	Phe	Val	Tyr	Glu	Gly	Ile	Leu	His
145					150					155				160	
Glu	Ala	Glu	Met	Thr	Tyr	Asp	Gly	His	Val	Tyr	Asp	His	Leu	Cys	Phe
				165					170					175	
Tyr	Gln	Lys	Lys	Gly	Arg	Val	Pro	Met	Asp						
			180					185							

<210> 10414
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 <212> PRT
 <213> B.fragilis

<400> 10414

His	Arg	Val	Pro	Gln	Ser	Glu	Leu	Asn	Leu	Leu	Ile	Thr	Asn	Asp	Ala
1				5					10					15	
Asp	Leu	Trp	Arg	Ile	Arg	Val	Leu	Thr	His	Pro	His	Leu	Val	Tyr	Ser
			20					25					30		
Leu	Tyr	Leu	Phe	Lys	Lys	Arg	Lys	Lys	Ile	His	Pro	Val	Thr	Leu	Val
		35					40					45			
Thr	Asn	Tyr	Leu	Tyr	Leu	Ile	Ser	Asp	Leu	Cys	Pro	Leu	Asn	Asn	Lys
	50					55					60				
Arg															
65															

<210> 10415
 <211> 115
 <212> PRT
 <213> B.fragilis

<400> 10415

Asn	Glu	Lys	Thr	Asn	Lys	Asn	Met	Glu	Gln	Ser	Phe	Lys	Lys	Gly	Ile
1				5					10					15	
Val	Leu	His	Leu	Ala	Ser	Leu	Val	Glu	Tyr	Ser	Glu	Gly	Gly	Ile	Ile

	20		25		30										
Ser	Lys	Gln	Leu	Ile	Lys	Ser	Pro	Ala	Gly	Asn	Ile	Thr	Leu	Phe	Ser
	35						40					45			
Phe	Asp	Lys	Gly	Glu	Gly	Leu	Ser	Glu	His	Ser	Ala	Pro	Phe	Asp	Ala
	50					55					60				
Leu	Val	Gln	Val	Leu	Glu	Gly	Ser	Ala	Asn	Ile	Val	Val	Asn	Gly	Gln
65					70					75					80
Val	Phe	Thr	Val	Asn	Ala	Gly	Glu	Ser	Ile	Val	Phe	Pro	Ala	Asn	Ala
				85					90					95	
Pro	His	Ala	Leu	Thr	Ala	Ile	Glu	Arg	Phe	Lys	Met	Leu	Leu	Thr	Met
			100					105						110	
Ile	Lys	Glu													
	115														

<210> 10416

<211> 404

<212> PRT

<213> B.fragilis

<400> 10416

Ser	Asn	Arg	Ala	Thr	Met	Asn	Ser	Lys	Lys	Val	Leu	Phe	Ile	Ile	Phe
1				5					10					15	
Ile	Cys	Thr	Leu	Thr	Val	Thr	Gly	Cys	Asp	Thr	Gln	Glu	Gln	Thr	Thr
			20					25					30		
Ile	Asp	Ser	Gly	Leu	Thr	Leu	Ile	Arg	Ala	Thr	Gln	Thr	Leu	Asp	Ser
			35				40					45			
Leu	Tyr	Ala	Asn	Tyr	Ser	Val	Ser	Gly	Thr	Cys	Leu	Leu	Ile	Glu	Asn
	50					55					60				
Tyr	Pro	Ser	Asn	Val	Gly	Asn	Tyr	Thr	Ala	Thr	Tyr	Leu	Ala	Ser	Glu
65				70						75					80
Glu	Gln	Lys	Glu	Ile	Pro	Asn	Gln	Tyr	Ser	Tyr	Leu	Trp	Pro	Tyr	Ser
				85					90					95	
Gly	Thr	Phe	Ser	Ala	Val	Asn	Ala	Leu	Trp	Ala	Ala	Thr	Gly	Asp	Glu
			100					105					110		
Ser	Tyr	Lys	Thr	Leu	Leu	Asp	Asn	Lys	Val	Leu	Arg	Gly	Leu	Glu	Lys
	115					120						125			
Tyr	Leu	Asp	Ile	Ser	Arg	Ser	Pro	Ala	Gly	Tyr	Ala	Ser	Tyr	Ile	Asn
	130					135					140				
Thr	Ala	Ser	Gln	Ser	Asp	Arg	Phe	Tyr	Asp	Asp	Asn	Ile	Trp	Leu	Gly
145					150					155					160
Ile	Asp	Phe	Thr	Asp	Ala	Tyr	Leu	Asn	Thr	Lys	Glu	Glu	Lys	Tyr	Leu
				165					170					175	
Lys	Lys	Ala	Gln	Leu	Ile	Trp	Glu	Phe	Ile	Glu	Ser	Gly	Ala	Asp	Asp
		180						185					190		
Lys	Leu	Gly	Gly	Gly	Ile	Tyr	Trp	Cys	Glu	Gln	Lys	Lys	Val	Ser	Lys
		195					200					205			
Asn	Thr	Cys	Ser	Asn	Ala	Pro	Ala	Ser	Val	Phe	Ala	Leu	Lys	Met	Phe
	210					215						220			
Lys	Ala	Ile	Arg	Asp	Ser	Ser	Tyr	Leu	Ile	Lys	Gly	Gln	Glu	Leu	Tyr
225					230					235					240
Glu	Trp	Thr	Lys	Lys	Arg	Leu	Gln	Asp	Ser	Thr	Asp	Tyr	Leu	Tyr	Phe
				245					250					255	
Asp	Asn	Ile	Ser	Leu	Asp	Gly	Lys	Ile	Asp	Lys	Ser	Lys	Tyr	Ala	Tyr
			260					265					270		
Asn	Ser	Gly	Gln	Met	Met	Gln	Ala	Thr	Leu	Leu	Tyr	Gln	Leu	Thr	
		275					280					285			
Gly	Cys	Ser	His	Phe	Leu	Lys	Asp	Ala	Gln	Asn	Ile	Ala	Lys	Ala	Cys
	290					295					300				
Tyr	Asn	Tyr	Phe	Phe	Ile	Asn	Phe	Ile	Pro	Glu	Glu	Gly	Glu	Pro	Phe

10416
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 PRT
 B.fragilis
 10416

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<210> 10417
<211> 310
<212> PRT
<213> B.fragilis
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[illegible]

305

310

<210> 10418
 <211> 229
 <212> PRT
 <213> B.fragilis

<400> 10418

Asn	Tyr	Ser	Tyr	His	Pro	Asn	Arg	Glu	Ser	Ser	Tyr	Phe	Phe	Cys	Leu
1				5					10					15	
Tyr	Asn	Gln	Glu	Ile	Asn	Tyr	Lys	Thr	Lys	Asn	Arg	Lys	His	Met	Gln
		20						25					30		
Lys	Val	Leu	Phe	Ile	Thr	Thr	Ile	Leu	Leu	Thr	Leu	Phe	Ala	Leu	Ser
		35					40					45			
Ile	Arg	Ala	Glu	His	Asn	Pro	Arg	Lys	Arg	Pro	Asp	Val	Ser	Ala	Gln
	50					55					60				
Phe	Gln	Thr	Val	Ser	Gly	His	Ser	Ile	Ser	Leu	Asn	Gly	Ile	Gly	Leu
65					70					75					80
Ala	Tyr	Ser	Tyr	Glu	Tyr	Ala	Phe	Thr	Pro	Lys	Gly	Thr	Ile	Ile	Phe
				85					90					95	
Ser	Ala	Gly	Ser	Ser	Tyr	Ala	Phe	Gly	Arg	Ile	Leu	Gln	Leu	Lys	Met
		100						105					110		
Glu	Ser	Leu	Arg	Glu	Phe	His	Ile	Asp	Thr	Lys	Asp	Tyr	His	Leu	Val
		115					120						125		
Thr	Gly	Asp	Leu	Ala	Ile	Glu	Pro	Arg	Phe	Tyr	Tyr	Asn	Leu	Lys	Lys
	130					135						140			
Arg	His	Arg	Asn	Gly	Lys	Arg	Thr	Trp	Gly	Asn	Ser	Gly	Gly	Tyr	Leu
145					150					155					160
Ser	Val	Asn	Phe	Gly	Tyr	Ser	Phe	Pro	Ile	Thr	Ile	Thr	Ser	Gly	Val
			165						170					175	
Lys	Ala	Ala	His	Ile	Tyr	Val	Ile	Thr	Pro	Tyr	Trp	Gly	Phe	Arg	Arg
			180					185					190		
Val	Trp	Lys	His	Phe	Leu	Phe	Asp	Leu	Ser	Gly	Gly	Val	Gly	Tyr	Ile
		195					200					205			
Gly	Ser	Ser	Asn	Arg	Thr	Ser	Ala	Val	Tyr	Pro	Gly	Leu	Arg	Ile	Gly
	210					215					220				
Leu	Gly	Tyr	Arg	Phe											
225															

<210> 10419
 <211> 429
 <212> PRT
 <213> B.fragilis

<400> 10419

Ala	Met	Asn	Tyr	Thr	Tyr	Arg	Gln	Ile	Trp	Leu	Ile	Asn	Tyr	Pro	Val
1				5					10					15	
Met	Leu	Ser	Ile	Leu	Met	Glu	Gln	Leu	Ile	Asn	Ile	Thr	Asp	Ala	Val
		20						25					30		
Phe	Leu	Gly	His	Val	Gly	Glu	Val	Glu	Leu	Gly	Ala	Ser	Ala	Leu	Gly
		35					40					45			
Ser	Ile	Tyr	Tyr	Leu	Ala	Ile	Tyr	Met	Leu	Gly	Phe	Gly	Phe	Ser	Leu
	50					55					60				
Gly	Val	Gln	Val	Met	Val	Gly	Gln	Tyr	Asn	Gly	Lys	Gly	His	Tyr	Thr
65					70					75					80
Gly	Thr	Gly	Gly	Thr	Phe	Phe	Gln	Gly	Leu	Val	Phe	Leu	Cys	Val	Leu
				85					90					95	
Ala	Ile	Leu	Leu	Ser	Leu	Ser	Ser	Tyr	Phe	Phe	Ser	Pro	Phe	Leu	Leu
			100					105						110	

Arg Tyr Phe Val His Ser Ser Glu Ile Tyr Cys Ala Val Ile Asp Tyr
 115 120 125
 Leu Asp Trp Arg Cys Phe Gly Leu Leu Phe Ser Phe Pro Phe Leu Ala
 130 135 140
 Phe Arg Ser Phe Tyr Ile Gly Ile Val Arg Thr Asn Ala Leu Ser Trp
 145 150 155 160
 Ala Ala Leu Ala Ala Val Leu Ile Asn Ile Pro Cys Asn Tyr Trp Phe
 165 170 175
 Val Phe Val Leu Asp Arg Gly Ile Ala Gly Ala Ala Ile Ala Ser Ser
 180 185 190
 Leu Ser Glu Ala Ala Ser Leu Leu Ile Ile Val Val Tyr Thr Trp Leu
 195 200 205
 Lys Ile Asp Arg Thr Asp Phe Gly Leu Lys Phe Ile Phe Asp Lys Cys
 210 215 220
 Leu Leu Val Glu Leu Trp His Leu Ser Val Trp Ser Ile Leu His Ala
 225 230 235 240
 Phe Ile Ser Val Val Pro Trp Phe Leu Phe Phe Val Val Ile Glu Arg
 245 250 255
 Leu Gly Glu Ala Gln Leu Ala Val Ser Asn Ile Ile Arg Ser Val Ser
 260 265 270
 Thr Ile Phe Phe Val Ile Val Asn Ser Phe Ala Ala Thr Thr Gly Ala
 275 280 285
 Leu Val Ser Asn Leu Ile Gly Ala Gly Glu Arg Gln Tyr Leu Phe Pro
 290 295 300
 Leu Cys Arg Lys Ile Leu Lys Leu Gly Tyr Ala Ile Gly Leu Pro Leu
 305 310 315 320
 Val Val Leu Ala Met Val Phe Arg Arg Gln Ile Thr Gly Phe Tyr Thr
 325 330 335
 Asp Ser Ser Gln Leu Ile Asn Ile Ser Ser Ile Pro Phe Ala Val Met
 340 345 350
 Leu Leu Asn Tyr Val Phe Ala Leu Pro Gly Tyr Val Tyr Ile Asn Ala
 355 360 365
 Val Thr Gly Thr Gly Lys Thr Arg Ile Ala Phe Trp Phe Gln Leu Ile
 370 375 380
 Thr Ile Val Ile Tyr Leu Phe Tyr Leu Tyr Leu Leu Ser His Tyr Thr
 385 390 395 400
 Ala Ser Leu Ala Val Tyr Leu Thr Ala Glu Tyr Leu Phe Val Ile Leu
 405 410 415
 Leu Ala Val Gln Ser Val Leu Tyr Leu Arg Ile Ser Ser
 420 425

<210> 10420

<211> 83

<212> PRT

<213> B.fragilis

<400> 10420

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe
 1 5 10 15
 Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met
 20 25 30
 Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu
 35 40 45
 Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu
 50 55 60
 Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser
 65 70 75 80
 Ser Ala Arg

<210> 10421
 <211> 84
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<400> 10421
 Phe Ala Tyr Lys Glu Ser Ser Val Cys Val Ala Arg Ile Arg Val Lys
 1 5 10 15
 Pro Leu Ser Ile Val Val Cys Ser Cys Val Ser His Pro Val Thr Val
 20 25 30
 Asn Val Gln Met Lys Met Met Lys Ser Thr Phe Phe Glu Phe Ile Val
 35 40 45
 Ala Leu Leu Asp Tyr Tyr Cys Val Ser Leu Leu Ser Phe Lys Glu Asp
 50 55 60
 Ile Phe Lys Ile Ser Ser Phe Pro Leu Phe Ile Lys Pro Leu Ser Pro
 65 70 75 80
 Asn Gln Phe Leu

<210> 10422
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 <212> PRT
 <213> B.fragilis

<400> 10422
 Lys Tyr Lys Lys Met Lys Lys Leu Ile Tyr Thr Leu Cys Leu Phe Thr
 1 5 10 15
 Gly Met Ala Ile Ser Ser Cys Glu Asp Trp Leu Ala Arg Asp Pro Leu
 20 25 30
 Asp Gln Ile Ala Asp Val Asn Leu Thr Tyr Thr Ala Asp Glu Cys Lys
 35 40 45
 Leu Tyr Val Asn Gln Phe Tyr Thr Ser Phe Trp Gly Ser Pro Asn Asn
 50 55 60
 Tyr Ile Tyr His Ile Asp Arg Gly Ser Asp Asn Leu Leu Ser Asp Asn
 65 70 75 80
 Tyr Gln Asp Asn Lys Asp Leu Ile Glu Gly Leu His Gln Val Pro Ser
 85 90 95
 Ser Gly Glu Gly Trp Gly Thr Thr Glu Trp Gly Lys Ile Arg Ser Val
 100 105 110
 Asn Phe Leu Leu Asp Asn Cys Asp Lys Ser Pro Glu Pro Glu Lys Ala
 115 120 125
 Arg Lys Tyr Ile Gly Glu Ala Tyr Phe Phe Arg Ala Met Leu Tyr Tyr
 130 135 140
 Glu Gln Phe Leu Arg Lys Phe Gly Gly Ala Pro Trp Ile Asp Lys Thr
 145 150 155 160
 Leu Asp Leu Glu Ser Gly Glu Leu Tyr Gly Pro Arg Leu Lys Arg His
 165 170 175
 Glu Leu Ala Asp Lys Ile Leu Asn Asp Met Asp Asp Ala Ile Asp Arg
 180 185 190
 Leu Pro Thr Tyr Ser Gln Gln Glu Thr Gly Arg Val Ser Lys Glu Ala
 195 200 205
 Ala Met Leu Tyr Lys Ala Arg Ile Ala Leu Leu Ser Ser Pro Arg Gly
 210 215 220
 Trp Lys Glu Gln Arg Ile Ser
 225 230

<210> 10423
 <211> 630

6204 10421 10422 10423

<212> PRT

<213> B.fragilis

<400> 10423

Ile	Met	Lys	Asn	Lys	Ser	Ile	Ala	Ser	Phe	Met	Ile	Lys	Ile	Val	Met	
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Met	Pro	Leu	Leu	Phe	Thr	Ile	Ser	Cys	Val	Asn	Glu	Ile	Ser	Glu	Asp	
		20						25					30			
Pro	Val	Asp	Ile	Pro	Gly	Glu	Ile	Pro	Ile	Arg	Leu	Ser	Thr	Gln	Ile	
		35				40						45				
Leu	Cys	Asn	His	Thr	Arg	Ala	Ile	Asn	Asn	Glu	Phe	Gln	Glu	Lys	Asp	
	50				55					60						
Ala	Ile	Gly	Leu	Tyr	Val	Leu	Thr	Gln	Leu	Ser	Thr	Ile	Asn	Gln	Lys	
65					70				75						80	
Arg	Tyr	Ile	Asp	Asn	Met	Arg	Phe	Thr	Cys	Ser	Gln	Ala	Thr	Gly	Phe	
				85					90					95		
Glu	Pro	Glu	Glu	Thr	Ile	Tyr	Tyr	Pro	Lys	Gly	Asp	Gly	Lys	Cys	Asp	
		100						105					110			
Phe	Ile	Ser	Tyr	Tyr	Pro	Phe	Gln	Glu	Thr	Gly	Ile	Asn	Gln	Asp	Gln	
	115						120						125			
Ser	Ile	Met	Gln	Val	Gln	Ile	His	Thr	Asp	Gln	Ser	Ser	Val	Ser	Lys	
	130					135					140					
His	Ser	Leu	Ser	Asp	Phe	Met	Ile	Ala	Thr	Asn	Ser	Asp	Ile	Thr	Pro	
145					150					155					160	
Ser	Gln	Asn	Met	Val	Ser	Met	Glu	Tyr	Lys	His	Lys	Leu	Cys	Lys	Leu	
			165						170					175		
Lys	Ile	Thr	Ile	Lys	Pro	Ala	Pro	Gly	Glu	Asp	Ile	Asp	Glu	Leu	Leu	
		180						185					190			
Asn	Asp	Asn	Pro	Ser	Leu	Ser	Leu	Asn	Gly	Phe	His	Ser	Asp	Ala	Ser	
	195						200					205				
Tyr	Asp	Phe	Leu	Thr	Asp	Arg	Phe	Glu	Pro	Ser	Gly	Gln	Thr	Ile	Ser	
	210					215					220					
Val	Thr	Pro	His	Gly	Glu	Trp	Lys	Ile	Glu	Asn	Asn	Ala	Leu	Thr	Gly	
225					230					235					240	
Lys	Glu	Val	Ile	Leu	Ile	Pro	Glu	Lys	Ile	Glu	Ser	Asp	Asn	His	Tyr	
			245						250					255		
Ile	Asn	Ile	Asp	Ile	Asn	Gly	Lys	Ser	Tyr	Ser	Cys	Pro	Phe	Pro	Asp	
		260						265					270			
Asn	Phe	Gln	Leu	Ala	Ser	Glu	Lys	Asn	Cys	Ser	Ile	Ala	Ile	Ile	Tyr	
		275						280					285			
Lys	Ser	Ser	Glu	Gly	Ile	Gln	Ile	Asn	Asn	Phe	Asp	His	Ser	Ile	Thr	
	290					295					300					
Asp	Trp	Thr	Glu	Gly	Asp	Ser	Gly	Glu	Thr	Thr	Ala	Gln	Glu	Thr	Ser	
305					310					315					320	
Gly	Val	Ile	His	Leu	Ser	Ala	Leu	Lys	Phe	Ser	Lys	Ser	Asn	Val	Tyr	
			325						330					335		
Lys	Ala	Ile	Asn	Glu	Gly	Thr	Gln	Val	Ala	Glu	Ile	Cys	Lys	Glu	Tyr	
			340					345					350			
Leu	Leu	Ala	Asp	Asn	Ile	Asp	Ala	Gln	Ala	Ile	Val	Val	Tyr	Pro	Val	
		355					360					365				
Leu	Asn	Gly	Ala	Thr	Asp	Leu	Asn	Asn	Gly	Thr	Val	Ile	Cys	Leu	Leu	
	370					375					380					
Asp	Glu	Pro	Ala	Ser	Ile	His	Gly	Gly	Lys	Val	Ser	Trp	Asn	Lys	Val	
385					390					395					400	
Asn	Asn	Ala	Leu	Asp	Tyr	Thr	Pro	Gly	Asn	Gln	Ser	Ile	Ile	Ser	Asp	
			405						410				415			
Phe	Tyr	Ile	Thr	Gln	Asp	Asn	Ser	Ile	Ser	Ile	Ser	Lys	Pro	Glu	Asn	
			420					425					430			
Pro	Leu	Pro	Val	Arg	Leu	Gln	Glu	Glu	Val	Leu	Thr	Asp	Ile	Arg	Asn	

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435 440 445
 Thr Glu Thr Gln Thr Tyr Pro Ile Val Lys Ile Gly Ile Gln Tyr Trp
 450 455 460
 Met Gly Arg Ser Leu Glu Ala Thr His Tyr Thr Asp Gly Lys Ala Ile
 465 470 475 480
 Thr Leu Lys Lys Asp Phe Thr Thr Thr Ala Gly Tyr Tyr Thr Gly Lys
 485 490 495
 Phe Lys Asp Ala Pro Gln Asp Phe Tyr Phe Tyr Asn Ser Glu Ala Val
 500 505 510
 Ile Ser Gly Lys Leu Ser Pro Gln Gly Trp Ser Ile Pro Thr Glu Thr
 515 520 525
 Glu Trp Glu Leu Leu Lys Gln Tyr Ile Asn Asn Asp Ala Ser Lys Leu
 530 535 540
 Lys Phe Gly Pro Trp Ser Ser Asp Glu Asn Gly Asp Lys Leu Pro Ile
 545 550 555 560
 Leu Asn Ile Thr Gly Phe Asn Gly Val Pro Glu Gly Tyr Ile Leu Lys
 565 570 575
 Ser Lys Asn Gly Tyr Thr Asn Gly Leu Tyr Thr Val Val Tyr Trp Ser
 580 585 590
 Thr Asn Ser Ser Gly Asn Gln Thr Asn Arg Ala Ile Tyr Leu Leu His
 595 600 605
 Thr Thr Asn Glu Ile Lys Asp Gly Asn Ile Thr Asp Arg Ala Leu Ser
 610 615 620
 Val Arg Cys Ile Arg Lys
 625 630

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 <211> 277
 <212> PRT
 <213> B.fragilis

<400> 10424
 Gln Ile Leu Lys Gln Thr Val Tyr Val Ser Ile Asn Pro Gln Asn His
 1 5 10 15
 Pro Ile Met Asn Arg Phe Glu Asn Lys Ile Ile Ile Ile Thr Gly Ala
 20 25 30
 Ala Gly Gly Ile Gly Ala Ser Thr Thr Arg Arg Ile Val Ser Glu Gly
 35 40 45
 Gly Lys Val Ile Ile Ala Asp Tyr Ser Arg Glu Lys Ala Asp Gln Phe
 50 55 60
 Ala Ala Glu Leu Ser Asn Ser Gly Ala Asp Val Arg Pro Val Tyr Phe
 65 70 75 80
 Ser Ala Thr Glu Leu Lys Ser Cys Lys Glu Leu Ile Thr Phe Thr Met
 85 90 95
 Lys Glu Tyr Gly Gln Ile Asp Val Leu Val Asn Asn Val Gly Gly Thr
 100 105 110
 Asn Pro Arg Arg Asp Thr Asn Ile Glu Thr Leu Asp Met Asp Tyr Phe
 115 120 125
 Asp Glu Ala Phe His Leu Asn Leu Ser Cys Thr Met Tyr Leu Ser Gln
 130 135 140
 Leu Val Ile Pro Ile Met Ser Ala Gln Gly Gly Gly Asn Ile Val Asn
 145 150 155 160
 Val Ala Ser Ile Ser Gly Ile Thr Ala Asp Ser Asn Gly Thr Leu Tyr
 165 170 175
 Gly Ala Ser Lys Ala Gly Val Ile Asn Leu Thr Lys Tyr Ile Ala Thr
 180 185 190
 Gln Thr Gly Lys Lys Asn Ile Arg Cys Asn Ala Val Ala Pro Gly Leu
 195 200 205
 Ile Leu Thr Pro Ala Ala Leu Asn Asn Leu Asn Glu Glu Val Arg Lys

10424 277 PRT B.fragilis 10424

210 215 220
 Ile Phe Leu Gly Gln Cys Ala Thr Pro Tyr Leu Gly Glu Pro Gln Asp
 225 230 235 240
 Val Ala Ala Thr Ile Ala Phe Leu Ala Ser Glu Asp Ala Arg Tyr Ile
 245 250 255
 Thr Gly Gln Thr Ile Val Val Asp Gly Gly Leu Thr Ile His Asn Pro
 260 265 270
 Thr Ile Asn Leu Val
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<210> 10425
 <211> 71
 <212> PRT
 <213> B.fragilis

<400> 10425
 Asn Lys Thr Lys Gln Ala Phe Ser Ile Pro Leu Tyr Asn Lys Cys Asn
 1 5 10 15
 Arg Thr Ile Ala Lys Val Thr Tyr Thr Ile Glu Lys Tyr Asn Ile His
 20 25 30
 Ser Asn Ile Leu Asn Asp Gly Ser Leu Glu Cys Thr Gly Gln His Ile
 35 40 45
 Ile Ile Ser Val Ala Val Phe Ser Phe Phe Pro Tyr Phe Leu His Leu
 50 55 60
 Phe Tyr Lys Cys Phe His Leu
 65 70

<210> 10426
 <211> 320
 <212> PRT
 <213> B.fragilis

<400> 10426
 Phe Ile Asp Asp Phe Glu Ser Lys Met Ile Phe Ile Leu Leu Leu Val
 1 5 10 15
 Gln Tyr Gln Arg Ser Ile Ser Leu Phe Tyr Leu Leu Ile Ile Lys Gly
 20 25 30
 Asn Ile Met Lys Lys Asn Leu Leu Val Gly Ala Leu Val Ser Ala
 35 40 45
 Phe Leu Leu Ala Ser Cys Ser Gly Gly Asp Lys Ser Lys Ala Pro Val
 50 55 60
 Val Ser Thr Ala Asp Ile Glu Asn Ala Ala Glu Val Ile Lys Tyr Tyr
 65 70 75 80
 Asn Thr Ser Leu Gly Val Leu Lys Asp Met Val Lys Glu Lys Asp Val
 85 90 95
 Asn Ala Val Leu Asp Tyr Met Glu Gln Lys Gly Lys Ala Pro Ala Leu
 100 105 110
 Ser Ala Ile Val Pro Pro Ala Val Val Ser Lys Asp Ser Ala Ile Val
 115 120 125
 Leu Asn Pro Gly Asn Cys Phe Asn Glu Glu Thr Arg Gln Asn Leu Lys
 130 135 140
 Gln Asn Tyr Thr Gly Leu Phe Gln Ala Arg Thr Glu Phe Tyr Ala Asn
 145 150 155 160
 Phe Asp Thr Tyr Leu Ser Tyr Leu Lys Lys Lys Asp Val Thr Asn Ala
 165 170 175
 Lys Lys Leu Leu Asp Val Asn Tyr Gln Leu Ser Thr Gln Met Ser Glu
 180 185 190
 Tyr Lys Gln Asn Ile Phe Asp Ile Leu Ser Pro Phe Thr Glu Gln Ala
 195 200 205

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Glu Leu Val Leu Leu Val Asp Asn Pro Leu Lys Ala Gln Ile Met Ser
 210 215 220
 Val Arg Lys Met Ser Ser Thr Met Gln Ser Ile Leu Asn Leu Tyr Ala
 225 230 235 240
 Arg Lys His Arg Met Asp Gly Pro Arg Ile Asp Leu Lys Val Ala Glu
 245 250 255
 Leu Thr Gln Gln Leu Asp Ala Ala Lys Lys Leu Pro Val Val Asn Gly
 260 265 270
 His Glu Gly Glu Met Lys Ser Tyr Gln Ala Phe Leu Ser Gln Val Glu
 275 280 285
 Thr Phe Ile Lys Gln Val Lys Lys Val Arg Glu Lys Gly Glu Tyr Ser
 290 295 300
 Asp Ala Asp Tyr Asp Met Leu Thr Ser Ala Phe Glu Thr Ser Ile Ile
 305 310 315 320

<210> 10427

<211> 90

<212> PRT

<213> B.fragilis

<400> 10427

Lys Arg Ala Glu Gly Phe Gly Leu Lys Ser Leu Leu Leu Thr Pro Leu
 1 5 10 15
 Gln Pro Pro Val Lys Thr Phe Ser Tyr Met Leu Phe Val Leu Ile Tyr
 20 25 30
 Phe Pro Cys Ile Ala Thr Leu Val Ala Ile Lys Gln Glu Ser Gly Ser
 35 40 45
 Trp Lys Trp Ala Ile Phe Thr Ala Gly Tyr Thr Thr Ala Leu Ala Trp
 50 55 60
 Leu Val Ser Phe Ala Val Tyr Gln Ile Gly Gly Met Phe Ser Pro Ile
 65 70 75 80
 Ala Trp Met Ser Asn Leu Leu Met Met Val
 85 90

<210> 10428

<211> 156

<212> PRT

<213> B.fragilis

<400> 10428

Arg Asn Met Asp Lys Val Ile Ile Asn Ser Tyr Glu Asp Phe Glu Lys
 1 5 10 15
 Leu Ile Gly Gln Gln Ile Gly Val Ser Asp Tyr Leu Glu Val Ser Gln
 20 25 30
 Glu Arg Ile Asn Leu Phe Ala Asp Ala Thr Leu Asp His Gln Trp Ile
 35 40 45
 His Val Asp Thr Glu Arg Ala Lys Val Glu Ser Pro Tyr His Ser Thr
 50 55 60
 Ile Val His Gly Tyr Leu Thr Leu Ser Leu Leu Pro His Leu Trp Asn
 65 70 75 80
 Gln Ile Ile Glu Val Asn Asn Leu Lys Met Met Ile Asn Tyr Gly Met
 85 90 95
 Asp Lys Met Lys Phe Gly Gln Ala Val Leu Ser Gly Gln Ser Val Arg
 100 105 110
 Leu Lys Ala Ser Leu His Ser Leu Thr Asn Leu Arg Gly Val Ala Lys
 115 120 125
 Ala Glu Ile Lys Phe Ala Ile Glu Ile Lys Asp Gln Pro Lys Lys Ala
 130 135 140
 Leu Glu Gly Ile Ala Ile Phe Leu Tyr Tyr Phe Asn

145

150

155

<210> 10429
 <211> 286
 <212> PRT
 <213> B.fragilis

<400> 10429

Ile	Met	Glu	Gly	Lys	Lys	Thr	Thr	Gln	Glu	Glu	Tyr	Gln	Lys	Cys	Val
1				5					10					15	
Asn	Ala	Val	Val	Asp	Tyr	Ile	Asn	Leu	His	Leu	Gly	Glu	Glu	Ile	Asp
			20					25					30		
Leu	Lys	Ser	Leu	Ala	Arg	Ile	Ser	His	Phe	Ser	Pro	Phe	Tyr	Phe	His
		35					40					45			
Arg	Ile	Met	Lys	Ala	Phe	Leu	Gly	Glu	Pro	Ile	Gly	Thr	Phe	Ile	Val
	50					55					60				
Arg	Thr	Arg	Thr	Glu	Ala	Ala	Ala	Arg	Leu	Leu	Arg	Tyr	Ser	Ser	Thr
65				70						75					80
Ser	Ile	Ser	Asp	Ile	Ala	Tyr	Arg	Ile	Gly	Tyr	Ala	Ser	Pro	Ser	Ser
			85						90					95	
Phe	Ser	Lys	Ile	Phe	Lys	Gln	Met	Tyr	Gly	Ile	Ser	Pro	Thr	Glu	Tyr
			100					105					110		
Arg	Asn	Asn	Lys	Asn	Tyr	Val	Ile	Met	Lys	Pro	Ala	Ile	Ile	Lys	Pro
	115						120						125		
Asp	Leu	Glu	Leu	Lys	Lys	Glu	Ile	Arg	Glu	Leu	Pro	Gln	Arg	Asn	Val
	130					135					140				
Ile	Tyr	Ile	Arg	Leu	Phe	Gly	Asp	Tyr	Lys	Leu	Asn	Asp	Tyr	Ala	Gly
145				150						155					160
Thr	Trp	Met	His	Leu	Ile	Gln	Phe	Val	Lys	Glu	Gln	Asn	Leu	Pro	Met
			165						170					175	
Gly	Asp	Pro	Ser	Pro	Leu	Cys	Ile	Tyr	His	Asp	Asp	Pro	Lys	Val	Thr
		180						185					190		
Pro	Thr	Asp	Lys	Leu	Arg	Thr	Asp	Val	Cys	Met	Leu	Leu	Pro	Ser	Asn
		195					200						205		
Ala	Arg	Pro	Lys	Gly	Asn	Val	Gly	Phe	Lys	Gln	Leu	Pro	Ala	Gly	Arg
	210					215					220				
Tyr	Ala	Thr	Phe	Leu	Tyr	Lys	Gly	Ser	Tyr	Asp	Gln	Leu	Gln	Ala	Val
225					230					235					240
Tyr	Asp	Thr	Ile	Tyr	Gly	Lys	Tyr	Leu	Pro	Glu	Met	Glu	Cys	Thr	Leu
			245						250					255	
Ser	Asp	Glu	Pro	Ser	Ala	Glu	Arg	Tyr	Leu	Asn	Asp	Pro	Ser	Cys	Thr
		260						265					270		
Pro	Pro	Glu	Glu	Leu	Leu	Thr	Glu	Ile	Tyr	Ile	Pro	Ile	Arg		
		275					280					285			

<210> 10430
 <211> 134
 <212> PRT
 <213> B.fragilis

<400> 10430

Asn	Ile	Arg	Met	Asn	Val	Ile	Leu	Phe	Asp	Gly	Ile	Cys	Asn	Leu	Cys
1				5					10					15	
Asn	Gly	Ala	Val	Thr	Phe	Val	Val	Lys	Arg	Asp	Arg	Lys	Gly	Leu	Phe
			20					25					30		
Arg	Phe	Val	Ser	Leu	Gln	Ser	Glu	Thr	Gly	Lys	Ser	Leu	Leu	Lys	Arg
		35					40					45			
Tyr	Ala	Val	Glu	Ser	Thr	Asn	Lys	Thr	Leu	Tyr	Tyr	Phe	Arg	Asn	Asn
	50						55				60				

Arg Cys Tyr Ser Lys Ser Thr Ala Ile Leu Tyr Ile Leu Lys Asp Leu
 65 70 75 80
 Gly Gly Phe Trp Gln Cys Leu Tyr Pro Leu Ile Leu Ile Pro Ala Lys
 85 90 95
 Leu Arg Asp Ala Ile Tyr Leu Leu Val Ser Lys Tyr Arg Tyr Arg Ile
 100 105 110
 Phe Gly Lys Ala Asp Ser Cys Ile Lys Pro Phe Gly Phe Ser Ser Glu
 115 120 125
 Glu Ser Lys Arg Ser Asp
 130

<210> 10431

<211> 245

<212> PRT

<213> B.fragilis

<400> 10431

Lys Asn Asn Val Leu Gly Lys Phe Ile Leu Asp Phe Phe Asn Ile Phe
 1 5 10 15
 Val Glu Ile Lys Ser Tyr Leu Asn Thr Met Asn Val Lys Ile Glu Ser
 20 25 30
 Ser Trp Gln Gln Arg Leu Gln Glu Phe Asp Lys Pro Tyr Phe Glu
 35 40 45
 Lys Leu Val Asn Phe Val Lys Asn Glu Tyr Gly Lys Ala His Ile Leu
 50 55 60
 Pro Pro Gly His Gln Ile Phe His Val Phe Asn Ser Cys Pro Phe Gln
 65 70 75 80
 Asn Val Lys Val Val Ile Leu Gly Gln Asp Pro Tyr Pro Asn Pro Gly
 85 90 95
 Gln Tyr Tyr Gly Ile Cys Phe Ser Val Pro Asp Gly Val Ala Ile Pro
 100 105 110
 Gly Ser Leu Ser Asn Ile Phe Lys Glu Ile His Gln Asp Leu Gly Lys
 115 120 125
 Pro Leu Pro Asn Ser Gly Asn Leu Asp Arg Trp Val Lys Gln Gly Val
 130 135 140
 Phe Pro Met Asn Ser Val Leu Thr Val Arg Ala His Glu Thr Gly Ser
 145 150 155 160
 His Arg Asn Ile Gly Trp Glu Thr Phe Thr Asp Ala Val Ile Lys Lys
 165 170 175
 Leu Ser Glu Glu Arg Glu Asn Leu Val Phe Met Leu Trp Gly Ser Tyr
 180 185 190
 Ala Lys Glu Lys Ala Ser Leu Ile Asp Thr Asp Lys His Leu Ile Leu
 195 200 205
 Thr Ala Val His Pro Ser Pro Arg Ser Ala Asp Tyr Gly Phe Phe Gly
 210 215 220
 Cys Lys His Phe Ser Lys Ala Asn Thr Phe Leu Arg Ser Arg Gly Ile
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<212> PRT

<213> B.fragilis

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 His Ile Leu Ile Pro Leu Met Val Leu Leu Leu Phe Gly Ser Met Asp

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Asp	Asn	Ile	Gly	Glu	Pro	Val	Ile	Gly	Ala	Asn	Val	Val	Val	Lys	Gly	
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Gln	Glu	Val	Lys	Val	Thr	Gly	Asn	Phe	Leu	Asn	Ile	Thr	Leu	Glu	Asn	
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Pro	Leu	Val	Ile	Ile	Asp	Gly	Val	Thr	Gly	Tyr	Phe	Asp	Asp	Leu	Asn	
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Gly	Ile	Ile	Asp	Leu	Glu	Thr	Met	Glu	Arg	Ile	Glu	Lys	Tyr	Tyr	Tyr	
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Arg	Trp	Ala	Asp	Trp	Gly	Asp	Gly	Arg	Ser	Asn	Ala	Asn	Glu	Asp	Trp	
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Gln	Lys	Ala	Met	Phe	Lys	Asn	Asn	Gln	Leu	Asn	Gln	Gln	His	Asn	Ile	
			340					345					350			
Ser	Ile	Arg	Gly	Gly	Ser	Asp	Lys	Thr	Thr	Tyr	Val	Met	Ser	Leu	Gly	
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Tyr	Leu	Lys	Asp	Glu	Gly	Lys	Leu	Arg	Tyr	Tyr	Asp	Asp	His	Tyr	Gln	
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Val	Trp	Gln	Glu	Ser	Asn	Asn	Asp	Asp	Phe	Thr	Ser	Met	Asn	Ala	Tyr
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			580					585					590		
Lys	Ile	Glu	Ala	Trp	Asp	Ser	Leu	Asp	His	Tyr	Ala	Thr	Leu	Gly	Phe
		595					600					605			
Phe	Gly	Arg	Phe	Asn	Tyr	Asp	Tyr	Lys	Ser	Arg	Tyr	Leu	Phe	Glu	Phe
	610					615					620				
Asp	Leu	Arg	Arg	Asp	Gly	Ser	Ser	Arg	Tyr	Ala	Lys	Gly	His	Gln	Trp
625					630				635					640	
Gly	Thr	Phe	Pro	Ala	Phe	Ser	Ala	Gly	Trp	Asn	Val	Ala	Lys	Glu	Ala
				645				650						655	
Phe	Phe	Glu	Pro	Tyr	Thr	Ser	Ile	Leu	Ser	Glu	Leu	Arg	Leu	Arg	Gly
			660					665					670		
Ser	Trp	Gly	Glu	Leu	Gly	Asn	Met	Arg	Gly	Lys	Asn	Tyr	Gln	Tyr	Ile
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Asn	Arg	Leu	Thr	Met	Ser	Phe	Asp	Trp	Tyr	Arg	Arg	Asp	Ile	Ile	Gly
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Pro	Asp	Thr	Asn	Asn	Ala	Asp	Ile	Arg	Asn	Glu	Gly	Trp	Glu	Leu	Thr
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Leu	Gly	Trp	Arg	Asp	Gln	Phe	Ser	Leu	Ala	Ser	Lys	Ser	Phe	Asn	Tyr
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Ser	Val	Ser	Phe	Asn	Leu	Ser	Asp	Tyr	Gln	Gly	Thr	Val	Leu	Lys	Tyr
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Ser	Asn	Pro	Lys	Gly	Leu	Ile	Tyr	Asp	Tyr	Tyr	Val	Gly	Lys	Lys	Met
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Gly	Thr	Ile	Trp	Gly	Tyr	Thr	Thr	Asp	His	Ile	Met	Thr	Asp	Pro	Ala
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Glu	Ala	Lys	Ala	Ile	Asn	Asp	Ser	Gly	Val	Gln	Asn	Lys	Phe	Gly	Gly
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Asp	Trp	Val	Val	Gly	Asp	Ile	Lys	Tyr	Val	Asn	Leu	Asp	Asp	Asp	Pro
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Gly	Gln	Trp	Gly	Ser	Asn	Val	Trp	Lys	Asn	Thr	Leu	Asp	Cys	Trp	Arg
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Glu	Asp	Gly	Ser	Asn	Pro	Asp	Pro	Trp	Leu	Pro	Arg	Leu	Tyr	Leu	Trp

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 35 40 45
 Asp Tyr Lys Ser Ser Thr Arg Asp Ile Ala Glu Phe Tyr Asn Leu Arg
 50 55 60
 Gly Gly Lys Glu Arg Ile Phe Asp Asp Met Asn Asn Gly Phe Ser Trp
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 Leu Thr Ala Leu Tyr Thr Ile Tyr Tyr
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 Met Gly Ile Asp Ala Asp Cys Leu Leu Glu Glu Leu Lys Gln Ile Lys
 50 55 60
 Ser Glu Gln Ser Leu Thr Leu Asp Phe Lys Ser Trp Pro Ile Asp Leu
 65 70 75 80
 Leu Val Asp Tyr Ile Leu Lys Phe His His Arg Asn Ile Arg Tyr Gln
 85 90 95
 Gly Pro Gln Ile Leu Gln Leu Leu Asp Arg Val Cys Glu Ala His Ala
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Ile	Gly	Asp	Ala	Leu	Lys	Arg	Ile	Ser	Gly	Ile	Asn	Val	Gln	Tyr	Asp	
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Gln	Gly	Glu	Ala	Arg	Phe	Gly	Gln	Val	Arg	Gly	Thr	Ser	Ala	Asp	Leu	

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Thr	Arg	Asn	Val	Gln	Leu	Asp	Leu	Ile	Pro	Ala	Asp	Met	Ile	Gln	Thr																																				
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Ile	Glu	Val	Ser	Lys	Val	Val	Thr	Ser	Asp	Met	Asp	Ala	Asp	Ala	Ile																																				
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Leu	Thr	Ala	Thr	Ala	Gly	Ser	Gly	Tyr	Asn	Trp	Ile	Ser	Glu	Lys	Ala																																				
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Gln	Leu	Asn	Leu	Gly	Leu	Thr	Tyr	Gly	Asp	Arg	Phe	Phe	Asn	Asp	Lys																																				
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Tyr	Asp	Thr	Glu	Phe	Leu	Trp	Glu	Lys	Asp	Asp	Lys	Gly	Asn	Val	Tyr																																				
																290																	295																	300	
Ile	Asn	Asp	Tyr	Gln	Ile	Arg	Gln	Tyr	Tyr	Val	Thr	Arg	Glu	Arg	Gln																																				
305																	310																	315																	320
Ser	Tyr	Ser	Ala	Ala	Leu	Asp	Trp	Asp	Ile	Ser	Glu	Asn	His	Lys	Leu																																				
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Met	Phe	Lys	Gly	Ile	Phe	Asn	Asn	Arg	Asn	Asp	Trp	Glu	Asn	Arg	Tyr																																				
																340																	345																	350	
Arg	Thr	Thr	Leu	Lys	Asp	Met	Asp	Glu	Glu	Gly	Lys	Ala	Thr	Val	Arg																																				
																355																	360																	365	
Val	Gln	Thr	Lys	Ala	Gly	Thr	Pro	Asp	Asn	Arg	Asn	Ala	Arg	Leu	Glu																																				
																370																	375																	380	
Arg	Gln	Arg	Thr	Met	Asp	Phe	Thr	Leu	Gly	Gly	Glu	His	Leu	Phe	Gly																																				
385																	390																	395																	400
Pro	Val	Ser	Met	Asp	Trp	Asn	Ala	Ser	Tyr	Ala	Lys	Ala	Thr	Glu	Glu																																				
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Arg	Pro	Asn	Glu	Arg	Tyr	Ile	Asp	Phe	Gln	Leu	Lys	Lys	Gln	Gln	Phe																																				
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Asp	Met	Asp	Leu	Ser	Asn	Glu	Arg	Glu	Pro	Leu	Ala	Thr	Pro	Lys	Ser																																				
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Gly	Ser	Thr	Met	Thr	Leu	Asn	Lys	Asp	Phe	Gly	Leu	Lys	Glu	Leu	Thr																																				
																450																	455																	460	
Glu	Gln	Gln	Glu	Asp	Ile	Lys	Glu	Lys	Asp	Leu	Lys	Phe	Ser	Met	Asn																																				
465																	470																	475																	480
Phe	Lys	Leu	Pro	Phe	Arg	Asn	Gly	Asn	Lys	Leu	Lys	Phe	Gly	Ala	Lys																																				
																485																	490																	495	
Val	Val	Arg	Lys	Thr	Lys	Asp	Lys	Glu	Val	Asp	Phe	Tyr	Glu	Tyr	Thr																																				
																500																	505																	510	
Pro	Lys	Asp	Glu	Glu	Ala	Phe	Met	Ala	Asn	Ser	Leu	Gln	Asn	Thr	Val																																				
																515																	520																	525	
Asp	Gln	Thr	Asn	Lys	Asn	Phe	Met	Pro	Asp	His	Lys	Tyr	Gln	Ala	Gly																																				
																530																	535																	540	
Ile	Tyr	Ala	Asp	Lys	Gln	Tyr	Val	Gly	Ser	Leu	Asp	Leu	Asn	Asn	Pro																																				
545																	550																	555																	560
Ser	Leu	Phe	Asp	Lys	Glu	Gln	Val	Gln	Glu	Glu	Leu	Ala	Gly	Asn	Phe																																				
																565																	570																	575	
Glu	Ala	Arg	Glu	Thr	Val	Ser	Ser	Gly	Tyr	Ile	Arg	Phe	Asp	Gln	Lys																																				
																580																	585																	590	
Leu	Thr	Asp	Asn	Val	Glu	Leu	Met	Thr	Gly	Leu	Arg	Ile	Glu	Asn	Thr																																				
																595																	600																	605	
Ser	Leu	Ser	Tyr	Thr	Gly	Arg	Thr	Tyr	Asp	Asp	Glu	Thr	Asp	Gln	Thr																																				
																610																	615																	620	
Ser	Lys	Thr	Ala	Arg	Glu	Thr	Asn	Ser	Tyr	Ile	Asn	Phe	Leu	Pro	Ser																																				
625																	630																	635																	640

Leu Leu Met Lys Trp Asn Val Asn Glu Asp Phe Lys Val Arg Gly Ser
 645 650 655
 Phe Thr Gln Thr Leu Ser Arg Pro Lys Tyr Ser Ala Leu Val Pro Ser
 660 665 670
 Val Asn Ile Lys Arg Ser Asp Asn Glu Val Thr Val Gly Asn Pro Gly
 675 680 685
 Leu Lys Pro Thr Leu Ser Tyr Asn Phe Asp Leu Ser Ala Asp Tyr Tyr
 690 695 700
 Phe Lys Ser Ile Gly Leu Val Ser Ala Gly Val Phe Tyr Lys Lys Ile
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 Asp Asp Phe Ile Val Asn Gln Val Ser Thr Asn Tyr Glu Tyr Asn Gly
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 740 745 750
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 755 760 765
 Pro Ala Leu Lys Cys Ile Gly Phe Tyr Gly Thr Tyr Thr Phe Thr His
 770 775 780
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 Arg Trp Arg Phe Asp Asn Gln Cys Gly Cys Ser His Arg Thr Cys Ser
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 Thr Lys Tyr Ser Ser Tyr Arg Asn Ser Gly
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 35 40 45
 Arg Asp Met Glu Leu Arg Val Gln Glu Leu Arg Glu Gln Pro Gly Ile
 50 55 60
 Ile Arg Val Asp Val Val Ala Lys Glu Val Leu Thr Arg Pro Glu Glu
 65 70 75 80
 Gly Asp Phe Asp Met Tyr Pro Pro Pro Ser Leu Gln Asp Val Ala Asp
 85 90 95
 Arg Arg Lys Ile Met Tyr Thr Tyr Lys Gly Lys Leu Lys Tyr Arg Pro

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Ile	Glu	Ile	Arg	Leu	Arg	Val	Gly	Ala	Gln	Glu	Val	Phe	Ser	Ala	Ser
	35						40					45			
Tyr	Val	Pro	Phe	Gly	Asp	Arg	Ile	His	Phe	Asp	Ile	Ala	Glu	Ile	Leu
	50					55					60				
Gln	Pro	Phe	Val	Thr	Ser	Gly	Pro	Leu	Glu	Asp	Ser	Glu	Asp	Leu	Ile
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Leu	Pro	Val	Ser	Gly	Phe	Met	Ala	Gly	Tyr	Thr	Leu	Glu	Val	Lys	Gly
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Arg	Glu	Thr	Arg	Thr	Leu	Thr	Gly	Lys	Val	Ile	Cys	Gly	Gly	Ile	Ser
			100					105						110	
Lys	Gln	Ala	Ala	Arg	Glu	Met	Ala	Gly	Arg	Gly	Thr	Asp	Phe	Ile	Leu
	115						120					125			
Asn	Arg	Leu	Arg	Asp	Tyr	Ser	Ser	Gln	Phe	Leu	Phe	Thr	Thr	Arg	Thr
	130					135						140			
Arg	Gly	Lys	His	Ile	Ala	Ile	Arg	Glu	Thr	Glu	Val	Ser	Pro	Leu	Ile
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Phe	Ile	His	Pro	Asp	Lys	Arg	Ile	Gln	Val	Glu	Ser	Glu	Tyr	Gly	Asn
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Arg	Ile	Lys	Leu	Pro	Glu	Gly	Thr	Ala	Gly	Glu	Val	Tyr	Ala	Leu	Asn
		180					185						190		
Ile	Gly	Arg	Ile	Arg	Arg	Glu	Phe	Phe	His	Arg	Tyr	Asn	Gln	Ile	Val
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Ser	Phe	Ile	Arg	Val	Leu	Val	Pro	Ala	Glu	Glu	Ala	Phe	Asp	Ile	Ser
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Lys	Met	Lys	Leu	Asn	Thr	Gly	Phe	Lys	Arg	Lys	Thr	Glu	Leu	Lys	Phe
	290					295					300				
Ile	Gln	Asp	Leu	Leu	Ser	Ser	Asp	Asp	Ile	Arg	Leu	Leu	Asn	Gly	Thr
305					310					315				320	
Ala	Arg	Arg	Arg	Val	Leu	Val	Thr	Cys	Glu	Glu	Tyr	Gly	Tyr	Glu	Glu
				325					330					335	
Pro	Met	Lys	Glu	Pro	Thr	Ser	Leu	Val	Leu	Asp	Ile	Glu	Val	Ala	Glu
		340						345					350		
Arg	Glu	Ser	Asn	Tyr	Thr	Pro	Asp	Met	Asp	Gly	Glu	Asn	Ala	Pro	Pro
	355						360					365			
Phe	Ile	Glu	Leu	Leu	Pro	Gly	Glu	Val	Glu	Ile	Pro	Ser	Glu	Gly	Gly

370 375 380
 Gln Val Arg Val Arg Val Glu Ser Asn Ile Met Trp Glu Val Val
 385 390 395

<210> 10440
 <211> 144
 <212> PRT
 <213> B.fragilis

<400> 10440
 Ile Thr Ser Met Ala Lys Ala Ser Trp Cys Asn Val Ser Pro Met Ser
 1 5 10 15
 Gly Lys Arg Asp Gly Val Leu Thr Ile Ser Ala Gly Ala His Thr Gly
 20 25 30
 Arg Val Ala Arg Asn Thr Val Val Thr Val Thr Ala Ala Asn Gly Thr
 35 40 45
 Arg Pro Ser Ala Ser Ile Ala Val Ser Gln Ala Gly Ala Gly Val Phe
 50 55 60
 Pro Thr Met Asp Thr Ser Lys Pro Asp Leu Ser Ser Ser Arg Gly Val
 65 70 75 80
 Val Asn Ile Asn Gly Thr Ser Asn Ile Ser Lys Leu Lys Trp Thr Cys
 85 90 95
 Pro Ala Arg Ile Met Gly Val Asp Met Pro Ile Asp Gly Asn Tyr Phe
 100 105 110
 Lys Asn Gly Gly Lys Thr Val Gly Ile Leu Gly Asn Asn Gly Gly Tyr
 115 120 125
 Ser Gly Glu Pro Arg Thr Leu Gly Pro Phe Lys Leu Cys Trp Arg Leu
 130 135 140

<210> 10441
 <211> 253
 <212> PRT
 <213> B.fragilis

<400> 10441
 Ile Ile Phe Ala Val Arg Tyr Met Glu Gly Glu Ala Gly Asn Asn Asn
 1 5 10 15
 Asn Leu Phe Thr Tyr Ala Met Ala Thr Gly Ser Thr Lys Asp Asn Tyr
 20 25 30
 Leu Ala Asn Gly Glu Lys Phe Leu Asp Ala Leu Asn Ile Ala Asn Thr
 35 40 45
 Gly Ser Gln Gln Leu Glu Tyr Lys His Glu Ile Tyr Asn Ser Phe Asp
 50 55 60
 Val Ala Asp Thr Arg Arg Glu Ala Thr Phe Ile Ala Ser Tyr Ser Lys
 65 70 75 80
 Asn Thr Glu Thr Lys Glu Leu Thr Leu Arg Gly Thr His Val Arg Lys
 85 90 95
 Asn Ile Gly Tyr Val Asn Ala Gln Gly Ser Arg Ile Tyr Cys Gly Asp
 100 105 110
 Tyr Ile Ile Tyr Arg Leu Pro Leu Val Tyr Leu Met Leu Ala Glu Ile
 115 120 125
 Glu Asn Met Gln Gly Gly Asp Val Ala Lys Tyr Ile Asn Leu Val Arg
 130 135 140
 Glu Arg Ala Tyr Ser Thr Asn Trp Asp Lys Ala Ile Tyr Gly Tyr Thr
 145 150 155 160
 Asn Ala Asp Phe Thr Asn Glu Leu Ala Ile Leu His Glu Lys Asp
 165 170 175
 Lys Glu Phe Ile Gln Glu Gly Gln Arg Trp Trp Asp Ile Arg Arg Met
 180 185 190

Thr	Leu	Thr	Lys	Gly	Gly	Lys	His	Leu	Val	Phe	Val	Lys	Glu	Gly	Ser
	195						200					205			
Ile	Gly	Thr	Asp	Met	Pro	Thr	Leu	Asp	Glu	Ala	Thr	Glu	Ala	His	Lys
	210					215					220				
Val	Leu	Trp	Pro	Val	Asp	Lys	Asp	Leu	Leu	Gly	Asn	Asp	Pro	Leu	Ile
225					230					235					240
Tyr	Gln	Thr	Pro	Gly	Tyr	Ala	Thr	Tyr	Lys	Lys	Ala	Glu			
				245					250						

<210> 10442

<211> 360

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (308), (347)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 10442

Lys	Ala	Ile	Leu	Met	Lys	Lys	Thr	Ile	Phe	Leu	Ile	Leu	Cys	Ile	Leu
1			5						10				15		
Cys	Ser	Leu	Gly	Ala	Met	Ala	Gln	Lys	Lys	Ser	Ile	Thr	Gly	Val	Ile
		20					25					30			
Thr	Asp	Gly	Ala	Gly	Glu	Ser	Ile	Ile	Gly	Ala	Ser	Val	Val	Glu	Val
	35					40						45			
Gly	Thr	Thr	Asn	Gly	Thr	Ile	Thr	Asp	Phe	Asp	Gly	Lys	Phe	Ser	Leu
	50				55					60					
Thr	Ile	Ala	Thr	Gly	Ala	Lys	Phe	Thr	Val	Ser	Tyr	Ile	Gly	Tyr	Lys
65				70					75					80	
Ser	Gln	Thr	Ile	Thr	Val	Gly	Ala	Glu	Asn	Thr	Tyr	Asn	Ile	Val	Leu
			85					90					95		
Lys	Glu	Asp	Thr	Glu	Val	Leu	Asp	Glu	Val	Val	Ile	Thr	Gly	Tyr	Gly
		100					105					110			
Gly	Ser	Gln	Lys	Arg	Ala	Thr	Leu	Thr	Thr	Ala	Ile	Ser	Lys	Leu	Asp
		115				120						125			
Asn	Ser	Val	Leu	Lys	Asn	Ala	Ala	Phe	Ser	Asn	Ala	Gly	Gln	Ser	Leu
	130				135						140				
Gln	Gly	Ser	Val	Thr	Gly	Leu	Arg	Val	Val	Asn	Lys	Thr	Gly	Gln	Pro
145				150						155					160
Gly	Ser	Glu	Pro	Asp	Ile	Thr	Leu	Arg	Gly	Gly	Ala	Thr	Ile	Thr	Gly
			165					170					175		
Asp	Asn	Ser	Lys	Ala	Leu	Ile	Val	Val	Asp	Gly	Ile	Val	Arg	Asn	Ser
		180					185						190		
Met	Ser	Asp	Ile	Asn	Pro	Ser	Asp	Ile	Glu	Ser	Ile	Gln	Val	Leu	Lys
		195				200						205			
Asp	Ala	Ala	Ser	Thr	Ala	Ile	Tyr	Gly	Ala	Arg	Ala	Asn	Gly	Gly	Val
	210				215						220				
Ile	Leu	Val	Glu	Thr	Lys	Ser	Gly	Lys	Glu	Gly	Lys	Ala	Ser	Val	Asn
225				230						235					240
Tyr	Lys	Phe	Lys	Met	Gly	Val	Asn	Phe	Ala	Arg	Lys	Gly	Tyr	Asp	Phe
			245					250					255		
Cys	Asp	Ala	His	Asp	Tyr	Ile	Tyr	Tyr	Asn	Arg	Leu	Gly	Tyr	Lys	Arg
		260					265						270		
Thr	Gly	Arg	Thr	Asn	Val	Asp	Thr	Gln	Met	Gly	Tyr	Gly	Ile	Gly	Asn
	275					280						285			
Asn	Leu	Phe	Asp	Ile	Arg	Tyr	Leu	Thr	Asp	Glu	Asn	Ala	Asn	Leu	Lys
	290				295						300				
Asn	Glu	Gly	Xaa	Ala	Ser	Met	Ala	Asp	Pro	Phe	Tyr	Asp	Gly	Lys	Thr

305 310 315 320
 Ile Leu Tyr Lys Asp Tyr Ser Gly Glu Leu Asp Asp Val Val Phe Asn
 325 330 335
 Asn Ser Ala Leu Thr Gln Asp His Tyr Val Xaa Ile Thr Gly Gly Asn
 340 345 350
 Asp Lys Arg Thr Phe Leu Pro Ala
 355 360

<210> 10443
 <211> 71
 <212> PRT
 <213> B.fragilis

<400> 10443
 Ala Lys Asn Gly Glu Lys Arg Lys Phe Cys Glu Tyr Phe Gln Thr Ser
 1 5 10 15
 Lys Asn Gln Ala Phe Ile Leu Phe Leu Val Leu Val Phe Ser Leu His
 20 25 30
 Lys Gly Leu Lys Met Asn Leu Leu Glu Gly Asp Lys Ser Ser Ile Lys
 35 40 45
 Ile Arg Leu Ile His Leu Leu Lys Asn Glu Leu Met Ile Phe Phe Gln
 50 55 60
 Asn Pro Thr Glu Val Arg Cys
 65 70

<210> 10444
 <211> 752
 <212> PRT
 <213> B.fragilis

<400> 10444
 Ile Pro Pro Gly Ala Asp Ile Ser Pro Leu Val Tyr Pro Phe Pro Thr
 1 5 10 15
 Phe Leu Arg Gly Arg Gly Gly Ile Leu Thr Gln Ile Phe Ser Leu Thr
 20 25 30
 Leu Gly Ala Leu Val Gly Ile Leu Leu Phe Ala Arg Val Ala Phe Ala
 35 40 45
 Leu Asn Tyr Asp Arg Tyr Tyr Gln Glu Pro Glu Asn Leu Phe Leu Thr
 50 55 60
 Leu Arg Thr Val Val Ser Gln Gly Glu Lys Lys Glu Pro Val Cys Ser
 65 70 75 80
 Asn Tyr Gly Lys Leu Pro Ala Ala Ile Arg Glu Asn Phe Pro Asp Glu
 85 90 95
 Val Glu Asp Ala Thr Leu Ile Asp Leu Phe Ser Arg Ser Ser Leu Tyr
 100 105 110
 His Glu Gly Gln Glu Lys Lys Asp Ala Ile Leu Ala Thr Ser Arg Ser
 115 120 125
 His Ile Phe Ser Thr Leu Gly Val Lys Val Leu Ser Gly Asn Val Ser
 130 135 140
 Glu Leu Asp Asn Met Asp Ala Leu Phe Ile Ser Arg Ser Leu Ala Gln
 145 150 155 160
 Ser Leu Phe Ala Asp Ala Asp Pro Ile Gly Lys Thr Val Met Ile Asn
 165 170 175
 Ile Asp Tyr Pro Leu Thr Val Arg Gly Val Phe Glu Asp Ile Pro Glu
 180 185 190
 Asn Ala Glu Phe Arg Phe Asp Gly Val Tyr Ser Phe Val Thr Arg Ala
 195 200 205
 Asn Arg Phe Arg Asp Glu Arg Gly Gly Trp Arg Gly Asp Ile Ser Tyr
 210 215 220

Thr	Cys	Met	Val	Arg	Phe	Arg	His	Pro	Glu	Asp	Val	Glu	Lys	Val	Ala
225					230					235					240
Ala	Arg	Met	Pro	Asp	Met	Met	Lys	Lys	Tyr	Ile	Gln	Tyr	Asn	Lys	Asp
				245					250					255	
Trp	Phe	Glu	Glu	Phe	Ser	Phe	Ile	Thr	Pro	Ser	Gln	Phe	His	Leu	Gln
			260					265					270		
Lys	Lys	Glu	Ser	Arg	Lys	Ile	Ile	Ser	Ile	Leu	Ser	Ile	Leu	Gly	Phe
		275					280					285			
Ala	Ile	Leu	Leu	Ile	Ala	Gly	Met	Asn	Asn	Val	Leu	Ile	Ser	Ile	Ser
	290					295					300				
Ser	Leu	Pro	Gln	Arg	Ala	Lys	Ser	Val	Gly	Val	His	Lys	Cys	Ser	Gly
305					310					315					320
Ala	Ser	Thr	Gly	His	Ile	Tyr	Arg	Met	Phe	Leu	Trp	Glu	Ser	Ala	Leu
				325					330					335	
Leu	Ile	Leu	Val	Ser	Leu	Leu	Gly	Val	Ile	Val	Leu	Leu	Leu	Tyr	Phe
			340					345					350		
Lys	Pro	Glu	Ile	Glu	Asp	Leu	Ser	Gly	Ala	Ser	Leu	Ala	Thr	Leu	Phe
		355					360					365			
Thr	Trp	Arg	Thr	Leu	Trp	Val	Pro	Ala	Leu	Val	Thr	Ile	Phe	Leu	Phe
	370					375						380			
Leu	Leu	Ile	Gly	Leu	Leu	Pro	Gly	Lys	Leu	Phe	Ser	Ser	Ile	Pro	Val
385					390					395					400
Thr	Gln	Val	Phe	His	Arg	Phe	Thr	Gly	Tyr	Arg	Ala	Ser	Trp	Lys	Tyr
				405					410					415	
Pro	Leu	Leu	Phe	Val	Gln	Phe	Thr	Gly	Val	Ala	Phe	Ile	Leu	Gly	Leu
			420					425					430		
Leu	Met	Ile	Ile	Leu	Leu	Gln	Tyr	Asn	Gln	Val	Met	Asn	Arg	Ser	Met
		435					440					445			
Gly	Tyr	Lys	Ile	Asp	Asn	Leu	Val	Ile	Gly	Trp	Gly	Pro	Phe	Asp	Ser
	450					455					460				
Met	Asp	Lys	Ile	Asp	Gly	Ile	Leu	Arg	Gly	Leu	Pro	Phe	Ile	Glu	Ala
465					470					475					480
Ser	Cys	Asn	Ser	Ala	Ser	Phe	Ile	Tyr	Asn	Gly	His	Thr	Arg	Gln	Ser
				485					490					495	
Phe	Thr	Asp	Ile	Asn	Gly	Lys	Arg	Phe	Met	Gly	Cys	Ile	Asp	Phe	Ile
			500					505					510		
Asp	Glu	His	Tyr	Val	Pro	Ile	Leu	Gly	Leu	Gln	Ile	Leu	Gln	Gly	Arg
		515					520					525			
Asn	Val	His	Gln	Asp	Gly	Glu	Val	Leu	Val	Asn	Glu	Glu	Leu	Leu	Arg
	530					535					540				
Gln	Val	Gly	Trp	Thr	Asp	Ser	Pro	Ile	Gly	Arg	Lys	Leu	Met	Glu	Asp
545					550					555					560
Asn	Tyr	Glu	Trp	Gly	Thr	Val	Val	Gly	Val	Val	Lys	Asp	Tyr	Val	Ala
				565					570					575	
Gln	Ser	Ala													

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690					695					700					
Trp	Ile	Ala	Leu	Pro	Ala	Ile	Phe	Val	Gly	Ile	Ala	Leu	Ala	Tyr	Val
705					710					715					720
Val	Gly	His	Lys	Trp	Val	Glu	Gln	Phe	Thr	Asp	Gln	Ile	Val	Leu	Ser
				725					730					735	
Ser	Pro	Arg	Asp	Val	Ser	Asp	Gln	Gly	Gly	Gln	Tyr	His	Gly	Gly	Gln
			740					745					750		

6222